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A MONTHLY JOURNAL

OF

MEDICAL AND SURGICAL SCIENCE, CRITICISM AND NEWS.

EDITED BY

J. L. DAVISON, B.A., M.D., C.M., M.R.C.S., E.
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THE CAUSES OF MENTAL IMPAIRMENT IN CHILDREN.

BY DR. J. MADISON TAYLOR, A.M., M.D., OF PHILADELPHIA.

Sensorial Defects. Defective Organs and Functions.

Faulty habits of thought and action, early established by accidental conditions, mould character and influence mental growth. Whether the effect will fall upon the individual only, or be transmissible, may fail to appear, but the presumption is that it does pass on. For example, a child of an active, restless brain exhibits amusing capacities in extravagant words and thoughts, and encouraged to cultivate this, forms the habit of using loose comments, inexact remarks merely of amiable hyperbole or acid derogation, misrepresentations, additions, and embellishments of simple facts, too often about people, colored by their own temporary estimate of these, a growing imagination, in short, lies and falsifications. Let this continue, and the outcome is moral astigmatism, growing into possibly creative fancies, and poetic or fictional scribbling, more probably a moral prevert or worse. A healthy contact with frank critics of a similar age and walk in life, plus a fair amount of good sense, and this facility may prove a boon. An atmosphere of silly adulation on one of shallow parts, and the resultant may be merely a blatant ass. Let these qualities arise in one of small moral fibre, or of selfish vanity, and a dangerous enemy to the community is fostered. At all events the character sustains thereby a warping which is permanent.

Take another illustration, suggested to me by a gentleman himself, an acutely sensitive sufferer from similar misfortune. Suppose a child to be endowed with normal brain and mind, but with perhaps less than usual audacity, and yet of impaired power of articulation as from some anatomic defect, cleft palate, or such like fault, or more commonly the disorder of stammering. As companions learn his difficulty in giving utterance to spontaneous thoughts, they take advantage of this in various ways, not aggressively it may be, but slowness to speak is recognized as a bar to many activities, both in the value of thought and physical movements. This child has certain ideas which should be promptly uttered to produce their best effects. They should come out clear and precise, just as the mind formed them, and in all this they fail. A second attempt is made to use other words, easier to phonate, or of shorter or simpler sentence construction, but of probably less vigor than first conceived. Even a

third time failure may result from attempts to express himself, and speedily the child makes less effort to speak at all. Inability to enunciate checks natural frankness and candor, and healthy boldness. Gradually such a sufferer shrinks from competitions in games which involve generally a good use of voice as well as of muscle. Soon the conviction grows that he is a defect, an undeveloped creature set apart from his fellows, not entirely of their company, and instead of the bold, vigorous stand for which his mind and limbs amply fit him, he drops into the background more or less. His character and mind are checked in growth; he fails to become what he should, no matter how well he may succeed. Of course there is precedent for stammerers attaining great success, *vide* Demosthenes, but there must burn within that unconquerable fire of genius, admitted by a rare possession.*

Perhaps the most potent factor among sensorial defects is eye strain. Our distinguished fellow, Dr. George M. Gould, promised me a summary on this subject from his forthcoming book, but is omitted here.

SURGICAL CAUSES.

In a personal letter in reply to my queries, Dr. DeForest Willard says:

"In my opinion the chief surgical causes producing mental enfeeblement in children are injuries to the brain during birth by the application of forceps, the traumatism of the brain substance and of the meninges with resultant inflammation, and inflammatory thickening producing changes which are frequently followed by both mental and muscular deficiency. Unfortunately a distinct fracture or definite depression is only occasionally capable of diagnostic demonstration; even localization symptoms in later years are only rarely demonstrable. When the evidences are definite, however, trephining is certainly indicated, and the same is true in regard to traumatism inflicted after birth.

"In respect to reflex irritation from phimosis, while I believe that muscular irregularities frequently result, yet I do not think that they produce a condition of mental deficiency save in rare cases. The same is true, too, of masturbation, although any drain upon the nervous system may assist in producing a low grade of mental as well as of muscular tonicity."

Dr. G. Hudson Makuen, whose experience in treating speech defects is unusually large, in a personal letter, gives me the following:

"We cannot over-estimate the value of speech as a factor in the mental development of children. Some form of expression seems to be necessary to the fullest mental activity and growth. It may be conceded that thought precedes expression, but certain it is that the one not only follows hard upon but actually depends upon the other for its development. Deprive a child of all forms of expression and you remove the greatest incentive to mental action. The chief mode of expression is speech, and if you would make possible the fullest mental activity give great care to the cultivation of easy, natural speech. Look well after any obstruction

* Stammering troubled Æsop, Virgil, Demosthenes, Alcibiades, Erasmus, Cato of Utica, and Charles V. (Arthur McDonald) abnormal man, p. 151.

to speech development in the vocal and respiratory organs. The slightest thickening of the nasal mucosa or of the pharyngeal or faucial tonsils greatly interferes with the formation of natural speech and thus indirectly makes an impress on the mind, the magnitude of which is out of all proportion to the cause of the trouble. In children with adenoid growths (in the vault of the pharnyx) the 'vacant stare,' which is a fairly accurate picture of the vacant mind within, is due not more to faulty breathing than to its concomitant faulty speech. Enlarged faucial tonsils which may interfere very little with respiration give the same facial characteristics, and I have seen cases of defective speech due to tongue-tie and other cases entirely independent of adenoid thickening in which arrested mental development was reflected in the continuance in exactly the same manner."*

Dr. Harrison Allen, in a personal letter, gives me the facts concerning the effects of naso-pharngeal obstruction: "Clinging to the roof of the upper throat passage, or to its posterior wall, there is found in every individual a number of small seed-like masses, which have received the name of the lymphoid or adenoid bodies. We know little or nothing of the nature of these growths or the purposes they serve in the economy. Not infrequently they will be found large enough to interfere with comfort and health. If they prevent air from passing through the nose into the throat, while the mouth is closed, the development of the body is often retarded and natural functions perverted. The chest becomes deformed, the upper ribs being widely separated, while the lower ribs lie close together. In weaklings, in whom the bones are lacking in lime-salts, the deformation of the chest is more marked than in sturdy subjects whose bones are normally developed. The upper jaw is narrowed from side to side, highly arched and, as a rule, the front teeth irregularly disposed. Occasionally deafness exists. The power of attention, the tenacity of the memory, the control of the will, and the emotions are all weakened. The disposition is apt to be sullen and occasionally intractable. The mouth is continually open and the face has a lack-lustre expression, the countenance has a pasty look, the general appearance of the child is one lacking in intelligence. In some instances, indeed, the child is actually mentally defective.

"If by any chance a child is already on the border line between normal and the abnormal intellection (and is a sufferer from adenoid overgrowth) we can well understand how the condition named may push it on the wrong side of the line, and keep it there.

"No rule exists by which the physician can determine the exact size or consistence of the growth; a small mass in a small naso-pharynx may be expected to excite more distress than does a larger and more vascular growth in a capacious naso-pharynx.

"When the growth is removed the symptoms named often disappear as if by magic. I say often, because it is not uniformly the case. Sometimes we observe a child whose general nutrition is impaired, who has inherited one of the numerous features belonging to an impaired constitution, and who happens, with the other evils, to have an obstructive adenoid

* A remarkable case is reported by Prof. Forbes, *Med. News*, Sept. 2, 1893.

growth. It is not reasonable to suppose that the removal of the growth would have any effect upon taints by inheritance. Yet in the many cases of the kind I have studied I have notes of three cases only when the operation was not followed by relief.

"Not infrequently in young people from fifteen to twenty years of age, (especially in girls who are growing rapidly) adenoid growths, which are not large enough to obstruct, will prove to be the cause of mischief. If catarrh be present, an otorrhea or deafness established, or an irritative cough and asthma exist, treatment is futile so long as these small adenoid growths are unmolested.

"Adenoid tissue is in close association with the tonsils and the lymph bodies at the base of the tongue. Early in life it is rare to find a large adenoid and small tonsil, therefore, we conclude that the two conditions are in some way associable. In consequence it is desirable always in children with large tonsils to be sure that adenoid growth may not be co-existent, or the treatment of the tonsil may prove quite ineffective to give relief. The basi-lingual bodies rarely attract attention at the time that the adenoid growths and tonsils are most active."

Dr. James K. Young, at my request, summarises the causes which impair mental development in children from the standpoint of the orthopedist, thus: "Among the pathologic causes which impair mental development in children, in my experience, a large number may be included unthe following:

I. Congenital syphilis.
II. Cerebral palsies.
III. Rickets.

"I. Congenital syphilis particularly impairs development of the encephalon by premature co-ossification of the cranial sutures. In severe cases this lesion produces microcephalus, but in milder forms there is simply premature closure of the fontanelles. Between these two forms every degree of impaired mental development may exist.

"II. Cerebral palsies. The number of cases of mental impairment from cerebral palsies is very large. They are not to be confounded with infantile spinal paralysis, in which there is no impairment of the mental development present. There may be a hemiplegia, a bilateral hemiplegia (diplegia), or a paraplegia. The hemiplegic cases are usually due to a hemilateral lesion of the cerebrum, either a sclerosis, an atrophy or porencephalus. The diplegic cases are due to the same causes, but the lesion is usually bilateral. The paraplegic cases are usually the remains of a slight cerebral lesion which has disappeared, but which has left a mild descending degeneration of the cord. In all these cerebral palsies there is more or less impairment of mental development.

"III. Rickets. In the majority of cases of rickets there is an impairment of mental development which apparently disappears sooner or later, as the child is relieved of its impaired nutrition; but the shorter stature, the changes in the cranial bones, and the tendency to excessive perspiration, which remains throughout life in some of these cases, is associated with slight impairment of mental development. Hydrocephalus is so rare that it may be excluded as a cause of impaired mental development in children.

"The impairment of mental development in cerebral palsies varies from complete idiocy to slight backwardness. In the paraplegic cases genital irritation, priapism, masturbation and incontinance of urine, is sometimes present and might easily be mistaken for cause rather than effect were it not for history of the case."

The paranoiac and the high grade imbecile enjoy a wide liberty of action, rarely suspected by their families of being aught but folk of "peculiarities" (as in a large family of our acquaintance) is much given to marriage, and their offspring are worse than they. The victim of epilepsy which may be under fair control, and otherwise of good report, not seldom weds a nervous, hysterical person, and of them come degenerate offspring. The deaf mute, grafted into doubtful stock, has produced idiocy and imbecility in second and third generations. Syphilis is conceded to predispose to seventeen per cent. of idiots. The intermarriage of relations is always a peril, seeing that almost no stock is without taint or enfeeblement. Lowered health in one or both parents; maternal impressions and acute disease during pregnancy; senility of a father, one or all throw a great strain upon organizations of hereditary bias of different kinds and degrees.

A clear history or clinical picture of syphilis may explain a certain group of juvenile dementias after four or five years old, before that the status of the mind can scarcely be rated.*

Febrile and post febrile states are responsible for many maniacs, classified by Nasse into those of the fever itself of protracted continuance of fever and of convalescence.

Spitzka (Keating's Encyclopedia) declares that during convalescence the more benign forms occur, and are common in adults, the first two of more frequent occurrence in children.

Those febrile processes bearing the burden of the largest responsibility in causing insanities are typhoid fever, scarlatina, measles, rheumatism and diphtheria.

The so-called reflex insanities are in truth probably only instances of exciting causes disturbing or destroying unstable mental equilibrium.

Spitzka also calls attention to a progressive form of hysterical insanity in girls about the time of puberty, which begins as dyspeptic states, shades off into aversion to food, with delusions about eating, and from this into other disorders of over-consciousness. Thus often are the hysterical insanities seen to begin in actual disease processes, often slight, and by gradual increments, colored by environmental influences, pass into serious mental disorders.

A very important instrumental cause of mind trouble is neurasthenia, the lowering of central energies by various forms of exhaustion, exhibiting widely varying states of neurosis, till the normal resistances are fatally impaired and manifested in the individual, and even more so in the offspring.

Depressing influences are especially hurtful to children, as deprivation of proper home comforts with harsh treatment, irrational punishment,

*All this question of interlacing causes is treated of in "The Insane Disorder of Childhood," *Journal Pediatrics*, by J. Madison Taylor, Feb., 1894.

brutal scoldings or cruelties can crush out budding intelligence, and do worse in causing the child to stem the current of abuses by cunning, subtleties, lies and thefts. Then are varieties of acquired imbecility brought about; but this is more usually moral in tone, and thence is the transition affected to moral imbecility and criminality.* The impressionable clay is fashioned to a vessel of evil, or if not so bad then wholesome tendencies fail to mature, and we have children of stunted minds and character who are reparable in very moderate degree.

The nutritive defects alone produce incalculable harm, even admitting that no physical bias coexists. Mind is absolutely conditional upon brain competence. Nutritional diseases, as rickets, tuberculosis, etc., are familiar backgrounds for all nervous diseases. Organic defects, as of kidney, heart, lungs, etc., are not shown to be of so grave an import as in the adult, but when present are occasionally responsible for manias. Excess of heat, either of fevers or sun or low temperatures long continued, exert a more recognizable effect.

City life may be accused of an immense deal of damage to germinating minds. The perpetual round of stimulants and excitements to the child, which, as Peterson says, "is a bundle of nerves and centres, and reflexes in a state of great activity, prepared to receive, store up and reenergize a world full of new impressions suddenly thrust upon it."

Other degenerative influences are the infectious diseases, depressing circumstances, want, exposure, deprivation of suitable hygiene, toxic inflexions, the use of opium, tobacco, etc.; the excitement of city life fiddling upon these over-sensitive nerves and reflexes with insufficient opportunities for repose and quiet; hurry of all kinds, hard, continuous labor, united to want and bad homes, vicious companions, especially parents who terrify and oppress.

Traumatism is an exciting cause of great rarity. Injuries to the unborn child by attempted abortion is, as Ireland remarks, "a probable cause of unknowable extent. Those received during protracted labor are appreciated, but not understood."† Sometimes the effect of the trauma soon pass away; at others they last as permanent crippling, or, worse, motor explosions, epilepsies, recurrent insanities, etc.

* D pine says the two great conditions for crime are moral insensibility and perversity, with two great accessory moral anomalies—impudence and lack of forethought. Criminals rarely express remorse, the criminal insane never Clouston, quoting this, adds that the most characteristic feature of the criminal insane and moral imbecile is inconsistency; they are stupid and careless, or cunning and hypochondrical.

† An inquiry into the causes producing cerebral injuries in the new-born. J. Madison Taylor, *Annal. Gynecol.* and *Pediatrics*, May, 1892.

(To be Continued.)

TREATMENT OF WARTS.—The most effective cure is from Fowler's solution, two drops three times daily, (in children half drop three times daily) slightly increasing the dose each week. The warts crumble to pieces and disappear, especially when washing and drying the hands, so that the skin looks normal after two or three weeks. Relapses have never been observed.—*Medical Herald.*

OBSERVATIONS ON ANTISEPTIC THERAPY.

BY O. MCCULLOUGH, B.A., M.D., ERIN, ONT.

If Dr. Lusk's remarks apply to normal or natural labor alone, no objection can be raised, when he says that weak antiseptic solutions cannot destroy the streptococcus, and that very strong ones kill the tissues as well. But when the poison is supposed to have gained admission as indicated by the symptoms of septicaemia, it seems rational to attack it locally even at the xpense of superficial tissue destruction. It can do no more than remove the mucous membrane, and this is renewed subsequent to menstruation after the old lining has undergone fatty degeneration. In fact the mucous membrane is physiologically destroyed and renewed alternately from the advento fmenstruation until the menopause. These degenerative changes affect the body of the uterus but not the cervix. Pregnancy interrupts this fatty change until term, and in involution the old linning is cast away. So a strong uterine douche, if it is not poisonous, cannot be an objection because it destroys something which nature is destroying anyway. Bichloride and iodine solutions bear a good report clinically. In post-partum hemorrhage, the secondary form of which may occur sometime in the practice of the most careful physicians, these douches must be useful. The result is the same whether the cause of hemorrhage be retention of portions of the membranes or placenta, inertia, a patent state of the uterine sinuses, sub-involution, fibroids, polypi, malignancy, the rupture of varicose veins, cervical laceration, the hemorrhagic diathesis or any other of the many conditions known to be causative, and their name is legion. I attended a case of labor not long ago in which the patient had a comparatively easv confinement, although the pains were not equal to the average. For the grinding pains of her first stage I gave the syrup of chloral in divided doses to which the os soon responded, although it was not markedly rigid. Moderate pressure on the abdomen as a *vis a tergo* with the natural assistance of the uterine pains soon completed the second stage, while the third stage followed after the usual interval. I always make it a habit to twist the partly expelled placenta and membranes round the finger to prevent possible retention of fragments, and this I did in the present instance. The uterus hardened in the usual way and the patient's pulse was considerably below one hundred beas. It used no douches, but I used a weak sublimate solution to purify my own hands. There was no rise of temperature at any time, but the mammary secretion was delayed, and when it did appear it was small in amount. On the sixth day the patient sat up in bed to entertain some friends who had called to see her, and in deference to their request swallowed some brandy. Soon she felt a trickling in the passages, continuous but not excessive, and at once sent for me. When I arrived I found a quickened pulse and considerable blood with no clotting. When small amounts of blood pass through the vagina, as in menstruation, the normal acid secretion prevents clotting. But blood retained in the uterus for any

length of time becomes clotted, or when the hemorrhage is excessive we must expect to find clots. Thinking this might be a disturbance of the lochia, which after nervous excitement may become profuse and quite red, I had the feather mattress removed, leaving her a hard one which was below the other, and not permitting her to leave the horizontial position. I ordered the amount of bed covering to be reduced, raised the foot of the bed slightly, and enjoined a large supply of good ventilation, as the room was quite too warm. I ordered a cool but nourishing diet as the woman was anæmic, recommended cool cloths to the hypogastrium, prescribed ergot and insisted on absolute quietness. This was Thursday evening. On Sunday morning she again called me saying that the bleeding had recurred. I inspected the external genital organs, and examined the cervix and so through a bivalve speculum. There was no laceration nor was it more patulous than one would expect. I thought it would cease. I gave a hot vaginal douche and ordered a continuance of the treatment described. The patient seemed nervous, but there was no rise of temperature, and no offensive odor in the discharge. I ordered the bowels to be kept open so that there might be no cause of congestion in a loaded rectum.

The bladder was regularly emptied all the while in the natural way. The oozing stopped till Monday night and then I saw there was no use of temporizing, so I prepared a solution of boiled water 120° and sublimate (1-10,000). With a catheter and Higginson's syringe I washed out the uterus until the water returned clear. There were some loose clots, but the discharge was perfectly sweet. With a small firm sponge attached to long blunt forceps, I scrubbed out the uterine cavity with antiseptic boiled water, slightly rotating the forceps so as to bring the sponge into contact with the whole uterine wall. Keeping my left forefinger at the os as a guide, I withdrew the sponge several times to dip it into the antiseptic solution, and saw what appeared to be small portions of membrane on the sponge. The last two times I applied it there was nothing visible, so I concluded that was all. I then dipped the sponge into a moderate strength of chloride of iron solution, and completed the toilet of the uterus. The bleeding did not return and the lochia itself ceased for a day or so. A soft, open-meshed sponge should not be used in these cases, as portions of it are liable to become detached. I followed Playfair's teaching and found it satisfactory. Had the bleeding been excessive, I would have mopped out the uterus at the first; I believe I did what was best under the circumstances. The small portions of the membrane-like substance were very thin, and may have been deciduous, or foetal for that matter. I did not examine them particularly as it was lamp-light, and the clinical side was all important just then.

The woman gave me her history. She said all her children were born alive and healthy, but three of them perished subsequently from diarrhœa and pneumonia. She told me that a year previously she "had a miscarriage," during which she lost a profuse quantity of blood, and was found by her medical attendant in an unconscious state.

She was a long time improving, she said, so I concluded that her present anæmic condition was due in a measure to the accident described. Sub-involution or atony of the uterus may follow such accidents, and be

primary causes of future hemorrhage, especially when the parts are congested as in menstruation and pregnancy. She suffered, too, from goitre which we find frequently associated with anæmia. In all hemorrhage the indication is to arrest the bleeding at once by methods that have stood the test. Physical examination is necessary, for the cause is generally immediate. In the cases where the cause is a remote one, as in purpura and kindred diseases, the diathesis must be overcome by medicine if possible.

Concluding the case, I would say that the lacteal secretion was not sufficient for the child, but between the mother's milk on the one hand and judicious artificial feeding on the other, she grew fat and healthy, and the mother was soon able to attend to the "economics" of her house. There are such cases, or at least similar ones, in the life-time of every practitioner, and it is rational to suppose that antisepsis ensures at least a cleanliness in method and application not otherwise obtainable But as a routine in normal practice, douches are not necessary. Everyone must be guided to a certain extent by his own judgment, for the text-books fail us sometimes, and we can all say with Professor Lusk that we "are ready to change our opinion to-morrow if new observations should make a change necessary." Every one should read Dr. Lusk's suggestions on such an important subject. Antisepsis I think cannot be carried to excess in surgery; as the conditions are different, they are accidental and therefore always pathological. But labor is in most cases natural and for that reason physiological. Let the patient, physician, nurse and attendants observe the strictest hygiene, and then if septicaemia persists, its perpetuation cannot be laid at the doors of the medical men.

Modern surgery, magnificent and life-saving as it is, has been too frequently sacrificed to a rash specialism that, ignorant of general principles, has unsexed the victims of hysteria in the false hope that nature has made mistakes somewhere.

In the surgery of the appendix too it is just as necessary to know *when* to operate as it is to know *how* to operate. No wonder that Goodell and McGuire have called a halt in these departments of practice.

Professor Lusk of New York has come to the rescue of our sisters at this juncture, and his timely words will not soon be forgotten by the conscientious profession of the civilized world.

Dr. Cantrell believes that, as a pus destroyer, no drug will take the place of ichthyol; therefore it is indicated in pustular acne, as well as in cases of furuncles and carbuncles, if seen early.—*Phil. Polyclinic.*

THE OLDEST PRESCRIPTION. A French medical paper prints what is believed to be the oldest known medical receipe. It is a tonic for the hair and its date is 4,000 B. C. It was prepared for an Egyptian queen, and required dogs' paws and asses' hoofs to be boiled with dates in oil. The modern hair restorer requires asses' heads.—*Medical Record.*

SURGERY.

IN CHARGE OF

GEO. A. BINGHAM, M.B.,

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COLLES' FRACTURE.

BY A. T. CLARK, M.D., GREENVILLE, PA.

My subject is not a new one. It is old, and I fear I shall not be able to make it interesting; but I feel that no apology is necessary. So long as the treatment of fracture of the lower end of the radius is as unsatisfactory as it is to-day, both to ourselves and our patients, it is necessary that we give the subject more study; more frequently interchange views. If you will bear with me a few minutes, in return I will promise that the everlasting microbe shall not enter in; that the bacterial army and that of its deadly enemy, the leucocyte, shall not even skirmish here.

I propose to treat only of the simple fracture. If compound or comminuted, each case must depend upon itself; upon its own merits. With the simple fracture there is a marked unanimity—resemblance—between the cases. We recognize the injury at sight; even across a room. As far as my experience goes, nineteen out of every twenty cases are simple fractures. With this most common fracture and of so important a member, it is not creditable to our profession that the results are so unsatisfactory if it is possible to do better.

The fracture is unique; it has not a parallel in surgery. No matter how perfect a knowledge of fractures in general one may attain, he is not prepared to either diagnosticate or treat this one without special study. Of the three cardinal symptoms of fracture, deformity, increased motion, crepitus, we have but one, deformity. Motion at the wrist-joint is lost and there is no motion at the seat of fracture. Crepitus, if we get it at all, only occurs when the fracture is reduced. As a rule, no visible callus forms in healing. It is no wonder that our fathers mistook the injury for dislocation of the wrist-joint. It is not complimentary to the profession that it is sometimes done yet.

The fracture of any bone is a serious injury, and we shall probably never be able to attain quite the results we may wish in their treatment. In the one under consideration, too, there are a few conditions that render its treatment more than ordinarily difficult. The fracture is very close to the radial articulation with the scaphoid and semilunar bones. If it is within seven-eighths of the lower end of the radius, it is through the sigmoid cavity for the articulation of the head of the ulna—a very important articulation. Notwithstanding these difficulties, it seems to me that we can and ought to obtain better results. Wherein do we fail?

Nearly twenty years ago, when the American Medical Association met in this city, a very instructive paper was read before the surgical section on the subject ef Colles' fracture. The discussion which followed was, if possible, more instructive, and was participated in by a number of eminent men; notably among whom were Drs. Moore, of this city and Rochester, and Frank H. Hamilton, of New York. If there are any here who listened to that discussion they will remember the enthusiasm of Dr, Moore as he described his three cases, which he designated as his diamond, his gold and his silver, naming them thus from the value he thought they possessed as a means of giving us instructions in this fracture. But the one point I wish to refer to here, is his method of dressing the fracture: simply an adhesive strap around the wrist over a compress placed under the head of the ulna, and the forearm supported in a sling extending from the elbow to the wrist, leaving the hand hanging over. The weight of the hand thus placed, he believed, prevented the lower fragment from sliding outward. Dr. Hamilton told us that he, himself, had received the injury, had reduced it himself, and operated for harelip four days afterwards. It may not be necessary, to-day, to offer evidence to show that there is very little tendency to displacement in this fracture, but so long as splints are being devised, no matter how awkward, if their inventors have the correction of that displacement in view, and as long as we frequently find the fracture dressed with apparatus as heavy as the forearm, it seems to me to be justifiable. If Dr. Moore's simple drapery was sufficient, and if Dr. Hamilton was willing to run the risk of displacement in his own wrist, to perform an operation four days after the injury, they certainly did not believe there was much danger of the fragments moving when they had been adjusted. Then, if we remember how difficult it is to move the fragments, one upon another, when we have the fracture nearly reduced and are not quite satisfied, we shall join with the great majority of the profession in the opinion that the fragments are not easily displaced when once placed in their proper position.

The trouble is that we do not properly reduce the fracture; set the broken bones. For once the populace are right with regard to our work. "It wasn't set right." A perfect coaptation of the fragments is more necessary in this than many other fractures. The bones are so thinly covered with soft tissues, that a little deviation in position is unsightly and is always in sight. What is of more consequence, a little deviation on the inner or ulnar side destroys the sigmoid cavity, and the head of the ulna is crowded out of doors, and here is just the place that the want of perfect coaptation is apt to occur. By thus permanently displacing the head of the ulna, the ulnar nerve is infringed upon causing contractures in the ring and little fingers.

When I was a student, surgical anatomy was neglected in our schools. From answers I have received from both young and old graduates, to questions I have put and requests I have made to point out bony landmarks in the living subject, I am led to believe that such teaching is not all that could be desired yet, and that the attainment of the student is not all that should be exacted. When we have all attained such profi-

ciency in this branch of study, to enable us to discern every process, every plane, every landmark perceptible to the sight or touch, to the eye or the finger, and know the tendency of every muscle to displace fragments in fractures, we shall be called to treat them, with less dread, and the results of treatment will be better. He that has accomplished this task has had no play-spell. We are in an era of specialties and specialists; another says: "There is nothing left for the general practitioner but a little space around the umbilicus four inches square." There is still room for another specialist. I, for one, shall hail with pleasure the advent of the bone-setter.

In this particular fracture the muscles have but little tendency to displace the fragments when they have been adjusted; but have we learned, and do we always have in mind the relations of the radius and ulna to each other, and to the surface of the wrist? Do we always remember that the plane of the posterior surface of the radius is not that of the wrist? That the posterior surface of the radius dips toward the head of the ulna at an angle of three, four, or even five degrees. If a straight edge be placed across the posterior surface of my own wrist—not unusually rough—I believe it will be three-eighths of an inch away from the surface of the radius next to the ulna.

Whether or not we have attained that knowledge of the contour of the bones of the wrist necessary, it is certainly a common error to leave the internal side of the lower fragment a little above the normal position. We do not bring this little piece of bone, sometimes an inch long, sometimes an eighth of an inch, quite forward to its place. If we fail to do this, what will be the result? If we only bring the internal portion of this fragment to a level of the posterior surface of the wrist, how will the wrist look, and what will be the disadvantages? Very slight tumefaction of the soft tissue will cover all irregularities when the fracture is first reduced. When we dispense with our dressing, and before absorption has come to our rescue, we will find something like the following: The wrist will be straight, which means a good deal to the laity; but the lower fragment will set diagonally upon the upper. The posterior surface of the wrist will be flat. The head of the ulna seems a little down, forward. Just in proportion to the displacement has the sigmoid cavity been narrowed or destroyed, and the head of the ulna cannot enter its articular cavity; consequently the posterior surface is a little wider than that of its fellow. As the lower fragment sits on the upper in a twist, it juts out a little into the external surface more prominently at that illy defined ridge, which separates the posterior from the external surface. It is to prevent this imaginary sliding out after reduction that so many splints have been devised. Near the centre of the anterior surface is a slight depression amounting to little more than a crease. With the exception of the prominence of the head of the ulna above mentioned, the internal surface is about normal. There may or may not be contractures of the ring and little fingers. So many fractured wrists have I seen that filled the above description, and so sure am I that these conditions depend upon this error or oversight in the reduction of the fracture that I have broken a rule I had always expected to adhere to, to let

others do the writing and volunteer this paper. In self-defense, or to prevent misunderstanding, I wish to say that I am presenting but one of the many errors that have been made in the reduction of this fracture; that I have no general rule for the treatment of all cases; I am not looking for panacea.

When we know just the position into which we wish to place a fragment, our work is plain, straightforward; but it is not always easy to accomplish.

Direct extension—traction—in a line with the radius, will not reduce this fracture. The posterior surface of the lower fragment held back, as it generally is, by the untorn portion of periosteum, pealed up from the lower end of the upper fragment, renders extension alone worse than useless. It tends to tip forward the anterior segment of the lower fragment, but has little tendency to bring it forward to its place. We are frequently advised to extend the hand upon the forearm, and then bring it down again to its place. Others may succeed in that way; I have never been able to. It is, however, in accordance with a very good rule, in the reduction of fractures, to place the limb, as nearly as possible, in the position it assumed when fractured. In that same address of Dr. Hamilton, to which I have before referred (if he were among us he would request me to call it a talk), he told us that he reduced his own fracture. As soon as he arose from the deck of the ferry-boat, on which he had fallen, he saw that he had a "silver fork" fracture, as he called it. He seated himself, and taking the hand of the injured arm in that of the well one, placed the injured wrist across his knee and made traction. He looked and saw he had not brought the fragment quite to its place, drew again with the wrist across his knee and succeeded. In my opinion he placed the limb, possibly from necessity, in the best possible position for reduction. We need not use our knee. By placing our fingers on the anterior surface of the wrist, pressing, with the palm, well up against the ulna to support it, and with our thumb on the dorsal surface of the lower fragment close to the ulna, we can, by making strong traction, in a straight line, force them by strongly flexing the wrist, at the same time making pressure with the thumb. The fragment will slip readily to its place. There is no danger of its going too far. This is my way of reducing, and it has given me satisfaction.

The dressing should be simple. A splint of some kind is absolutely necessary. Twice I have ventured to dress with a simple roller bandage over a heavy layer of cotton. The results were good so far as the fracture was concerned; but in both cases I was told, very patronizingly, by my patients, that they guessed it was not broken much. A splint is necessary to keep in remembrance the fact that they have a fracture. Whatever splint you select *adjust* it. Let me say, parenthetically, that I believe splints have done more harm in fractures, than they ever did good. An anterior splint is as good as any; but the lower end should be as wide as the palm. A hand bent upon the palm longitudinally will be painful. If you doubt it, hold your hand in that position ten minutes.

FAILURE OF CASTRATION TO CAUSE ATROPHY OF THE PROSTATE.

BY CHARLES B. KELSEY, M.D.

The patient, aged sixty-nine, came into the Post-Graduate Hospital suffering greatly with cystitis, due to enlarged prostate. He had been unable to pass water for two or three months, and had been catheterized by his wife every three or five hours. In addition to a very large prostate he had right inguinal hernia and hydrocele on the left. The urine was albuminous. Bassini's operation was done on the right side, and both testicles were removed.

After three weeks of careful catheterization and washing out of the bladder, there being very slight improvement, if any, in his symptoms, a perineal section was made and permanent drainage established.

Two weeks and a half later (five weeks and a half after castration) the patient died of chronic nephritis. As far as could be seen, his death was not in any way hastened by the operative interference.

Following is the report of the pathologist to the hospital, Dr. Brooks :

"NEW YORK, January 31, 1896.

"MY DEAR MR. KELSEY:—The following is a brief report upon the prostate removed from castrated patient.

"REPORT.—Mr. ———, aged sixty-nine. Prostate removed six hours after death. Weight: 45 grams. Dimensions: antero-posterior diameter, 1¾ inches; transverse diameter (base), 2½ inches; depth, 1 inch.

"GROSS APPEARANCE.—Color, dark red. Consistence firm, dense, moderately friable. The cut surface mottled and of a dark reddish-gray color; shows numerous delicate, silvery, grayish-white and grayish-red bands, united to form trabeculæ of greater or less density and thickness, encircling prominent, irregularly outlined, nodulated foci, which are pale yellowish-white in color and of succulent consistence. These foci vary in size from that of a milletseed to that of a small pea.

"MICROSCOPICAL EXAMINATION.—In teased preparations from the fresh organ, the elements composing the stroma, unstriated muscle, fibrous and elastic tissues appeared to be well preserved and in normal proportion. Individual cells symmetrical; nuclei prominent, well-defined, and distinctly visible; protoplasm clear or faintly granular. Rarely a cell filled with minute droplets of fat was seen; also a few free fat droplets floating in the mounting-fluid (physiological salt solution) surrounding the fragments of tissue. Fibrous elements somewhat in excess of unstriped muscle structure. Most of the epithelial cells from glandular ducts presented no strikingly abnormal alterations. The greater portion of them possessed distinct nuclei and quite clear, nearly homogeneous, protoplasm containing but few granula. A very small number were partly disintegrated, slightly pigmented, and filled with minute fat granules and occa-

sional large oil drops. These disorganized cells were prominent by virtue of their rarity.

"In unstained sections from frozen tissue, the stroma was seen to be composed of well-preserved, tortuously distributed, unstriated muscle fibres, and more or less densely arranged fibrous connective tissue, the latter in excess. The stroma was decidedly greater in amount than glandular structure; though this was not much more pronounced than is frequently the case in the normal prostate, especially in the lateral lobes. On careful search, a few isolated cells containing distinct drops of fat, in minutest division, could now and then be found lying embedded between apparently normal muscle elements. Notwithstanding the presence of fat, the nuclei and general contour of these cells were perfectly retained. Sometimes free fat globules were seen lying between the connective-tissue fibres; but it is believed these could readily have been, and probably were, originated during cutting and mounting of these sections. The epithelia (often in double layers) lining the ducts appeared to be in normal relation to each other; contour uniform and nuclei distinct; protoplasm clear or but slightly granular. Fat was very rarely observed in the glandular structure, and then only in the form of minutest droplets, and confined chiefly to lumina. Occasionally the lumen of a duct, presenting intact lining epithelia resting upon basement membrane, was seen partially or wholly occluded by an amorphous or finely granular substance, enclosing several partially disintegrated cells and a few fat droplets. The great majority of the lumina of the ducts were comparatively free, or showed but slight traces of granular detritus or deposits of other nature. On the whole, the changes observed in the fresh tissues were not sufficiently pronounced to warrant the assumption that atrophic process had. to any great extent, been established.

"Study of frozen sections, hardened in formalin and alcohol, and subsequently stained with Boehmer's hæmatoxylin and borax carmine, revealed even less evidence of atrophic changes. Excluding fat, the description given above under examination of fresh tissue applies here. The best-stained portions of the sections were invariably the epithelial cells lining the tubules—the parts where alterations would most naturally be expected. The only change remarked was a slight increase in the amount of fibrous connective-tissues as compared with the muscular structure. This alteration seemed to be confined to certain areas. In other areas the glandular structure was in excess, the various lobuli being almost in apposition. In some parts the separating partitions were composed almost wholly of muscular tissue. A small number of corpora amylacea were seen.

"H. T. BROOKS."

It will be seen from this very careful examination that neither in gross appearance nor in microscopic structure was there the slightest sign of any atrophic or degenerative change in the prostate gland.—*Med. Record.*

The old, as a rule, bear heat much better than cold. The hot-water bag will, usually, be more comforting to them than the ice coil.

SOME MECHANICAL CAUSES OF INTERFERENCE WITH THE ACTION OF THE STOMACH AND THEIR SURGICAL RELIEF.

BY DR. W. J. MAYO, ROCHESTER, MINN.

The author divided his subject into two classes: first, those which act from within the cavity of the stomach, or within its immediate connections, such as a tumor, cicatrix, or a foreign body which may obstruct its inlet or outlet, or prevent its normal muscular action; and, second, those which act from without the stomach, and interfere either by pressure or adhesion, obstructing its inlet or outlet, or fixing some portion of its wall, thus preventing its functions. The history of the case, the physical examination, the distention with air, and the test meal constitute the main diagnostic resources. The diminution or absence of free hydrochloric acid, when taken into consideration with the physical examination and the history, is of some service. The treatment of forms of obstruction due to stenosis, as a result of scar tissue, is exceedingly trying, but some of the less resistant cases, when seen early, can be dilated by means of bougies used through the mouth. If it is impossible to pass a bougie, retrograde dilatation by means of gastrotomy is a rational procedure, and the olive-tipped whalebone bougies are of most value. Gastrotomy for the purpose of retrograde dilatation is perhaps best done by Fenger's oblique left lateral incision through the abdominal walls, which brings this opening more directly in line with the cardiac orifice. Gastrotomy for the removal of foreign bodies is an operation of great efficiency, while gastrotomy for the purpose of feeding is subject to great annoyance in the way of leakage. For temporary purposes the Witzel method is of the greatest benefit, as immediately after removing the tube the fistulous tract closes, while for permanent feeding Frank's spout method is undoubtedly the best. Obstructions at the outlet of the stomach are exceedingly common, and many cases, especially those of pyloric stenosis secondary to ulcer, are too often pronounced malignant without proper examination. For the relief of non-malignant stricture at the pylorus, the Hoenke-Mikulicz pyloro-plastic operation is the one of choice, and is wonderfully well adapted to the average case. The author briefly cited a case in which this operation had been done, and in which the recovery was prompt and the gain in weight remarkable. For inoperable obstruction, such as advanced malignant disease, gastro-enterostomy is the operation of choice. As a result of three of these operations, in which the Murphy button was used by the author, there were two successes and one death. Of the two patients who recovered, one has gained forty pounds up to the present time, which is one and a half years after the operation. The frightful mortality of pylorectomy in malignant disease without reported permanent cures is not encouraging, and the reason for this great mortality lies in the debilitated and starved condition of the patient at the time the operation is resorted to.

As Sunlight is to Darkness

is the condition of the woman who has been relieved from some functional disturbance to her state before relief. Don't you know, Doctor, that there are few cases that pay the physician so well as those of women—and the Doctor that relieves one woman, lays the foundation for many more such cases—all women talk and your patient will tell her friends. ASPAROLINE COMPOUND gives relief in all cases of functional disturbance—Leucorrhœa, Dysmenorrhœa, etc., and in the cases it does not cure it gives relief. We will send you enough ASPAROLINE COMPOUND—free—to treat one case.

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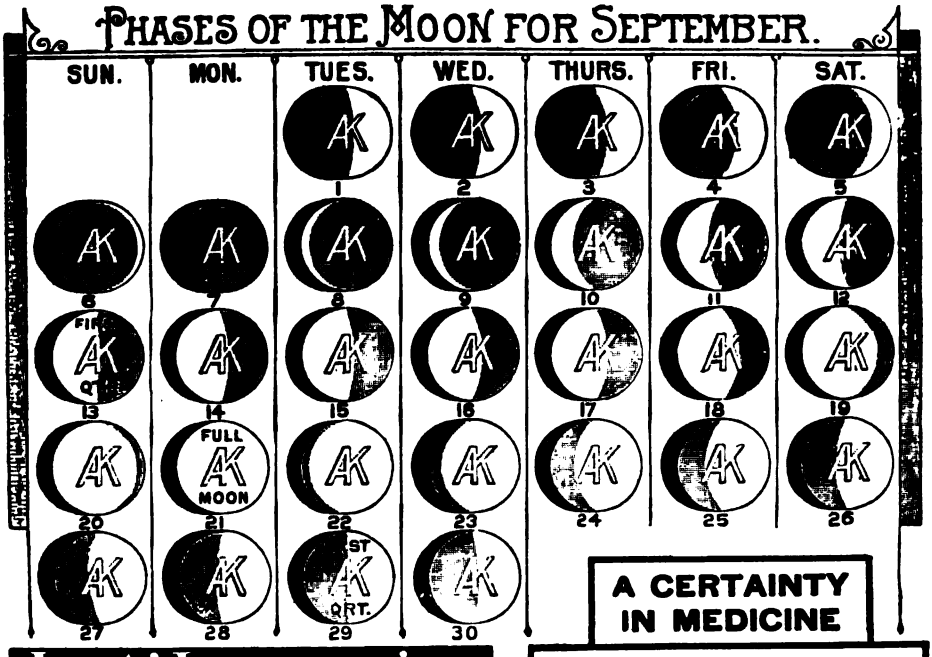
PHASES OF THE MOON FOR SEPTEMBER.



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Among the external causes of interference with the stomach, adhesions of the pylorus or duodenum to the gall bladder, due to the inflammation excited by gall stones, is not infrequent. The most common cause of external interference with the action of the stomach is adherent omentum. Irreducible omental herniæ of any variety are almost always accompanied by gastric distress, which disappears after the radical cure of the hernia. The author mentioned the case of a man fifty-four years of age, who had suffered for seventeen years from gastric pain and chronic indigestion, and in whom, upon dilatation of the stomach, an old irreducible omental hernia was found. Radical operation cn the hernia, with liberation of the omentum, promptly relieved the symptoms.—*Am. Med. Assoc.*

SURGICAL HINTS.

Despite the advances made in latter years in the diagnosis of abdominal trcubles, an explanatory laparotomy will be necessitated in a large majority of doubtful cases.

Urethral strictures seldom if ever occur before a lapse of three months after the first gonorrheal infection. In ninety-nine cases out of one hundred it is nonsense to speak of gleet as being inoffensive; it is a signboard showing the presence of gonococci, perhaps quiescent, yet able to awaken to their pristine energy, on small provocation.

When preparing the room for an emergency operation in a private dwelling, do not permit sweeping, dusting, or the taking up of rugs or carpets. This only raises dust which will later settle in the wound and probably cause infection. Cover every undisinfected object with a clean sheet or towel. The dismantling of a room may, however, be permitted if several days are to elapse between the preparations and the operation.

If you wish to make a neat scar and avoid the unsightly suture points, you can do so by sewing through the cut edge of skin laterally, so that the strongly-curved needle shall not at any point pierce the epidermis. The continuous suture lends itself most readily to this method, and even the knots at the beginning and end may be completely buried. A pretty girl who has the misfortune to require a cutting operation about the face will be very grateful for anything you can do to minimize the deformity of a cicatrix.

An enlarged *non-syphilitic* lymphatic gland may be safely treated by the ice-bag and internal medication as long as there is no fever and no tenderness. When the gland is chronically enlarged and is *tender* to compression with the fingers, a central pus focus should be suspected, and even a slight daily rise of temperature makes the diagnosis almost certain. Such glands, if they are not adherent by brawny infiltration to the surrounding parts, may be easily removed entire by dissection and the wound may be sewn up. *Do not try* to dissect out a gland which feels firmly fixed by hard, brawny adhesions. Such cases demand free incision and packing. No sutures should be used.

MEDICINE.

IN CHARGE OF

N. A. POWELL, M.D.,

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THE McINTYRE ELEPHANTIASIS CASE.

BY G. LAIDLAW, M.D., CHICAGO.

In this world of phenomena it is not strange that a physician and surgeon, practising his profession for a number of years, should occasionally meet with pathologic conditions more or less rare, but it is strange that some should meet the most remarkable cases at every turn, so to speak. In this connection I am sure that it is the privilege of very few professional men, outside of very large hospitals, to deal with more extraordinary cases than have come to the notice and care of my much respected friend and colleague, C. J. McIntyre, C.M., M.D. As a partial proof of the foregoing assertions, I take great pleasure in presenting to the reader four different views of a patient whom the doctor has had for several years, together with a few brief remarks upon the history of this particular case and the disease with which the lady is afflicted.

The good-natured, intelligent and respectable woman who so kindly allowed us to divest her of all metallic substance and garments and pose before the searching eye of the camera obscura, that by so doing we might obtain further light in medicine and be able to present to your view these pictures from life, is a native of America, and was born in Wisconsin. She is now 45 years of age and the mother of ten children, to five of whom she has given birth since the disease from which she now suffers began.

Eighteen years ago, while engaged in a laborious task, she sustained an injury of the abdomen, near the umbilicus, which was followed shortly after by chills and vomiting. The cutaneous and subcutaneous tissues of the affected part presented redness, tumefaction and infiltration. In a short time the acute symptoms disappeared, leaving a well marked hypertrophy, which gradually increased until two years later, when the left leg began to be covered with scales and to enlarge somewhat. She was at this time in the fourth month of gestation with her sixth child. The abdominal trouble grew gradually worse, but the leg remained in about the same condition until seven years later, when she fell from a step-ladder and sustained a wound from a rusty nail on the right leg, just above the ankle, where, by reference to Figures 1 and 2, the mark of its point of entrance may still be seen. This accident occured on July

5th, and on August 15th she was attacked with chills and vomiting. The seat of the wound burned and throbbed and her sufering was great. The symptoms, as she described them, appear to have been those of tubular lymphangitis. At the end of two months from the date of the accident she had recovered from the lymphangitis and, as she remarked to us when relating the history as above, "was ready for more trouble." She did not have long to wait, for in November of the same year she again fell, this time into a register hole, and wounded her left leg, which as we have stated was the one on which the scales appeared two years after the abdominal injury. For a third time she was attacked with chills and vomiting, on the second day after the fall.

FIGURE 1.

Her physician pronounced the case, when he saw it, one of erysipelas. The entire limb from toe to knee was involved, and she was very ill for four months. The tissues never returned to their normal proportions, not even to the size which they were when the accident occurred, but, on the contrary, continued to increase in size, the trouble extending all the while further and further up the limb.

Some time after this, but just how long the patient does not remember, the right leg, which had been injured by the nail, began to enlarge.

We have how passed roughly over the first ten years of the history of this case, giving the story substantially as the patient related it from memory.

Dr. McIntyre began to see the case about this time, and has now been the patient's physician for about eight years, during which time he has

FIGURE 2.

had to deal with indolent, unhealthy and ever-increasing ulcers, the secretions from which have been composed of serum and pus, and very disagreeable to the sense of smell. The epidermis has at times become fissured and cracked; papillomatous excrecsences of no mean size, made up of conglomerations of many smaller ones, have appeared, while the lymphatics have exuded lymph in large quantities. When the fissures and ulcers have reached deep-seated nerves Dr. McIntyre has had to assuage the great pain which the patient would experience; and there have appeared at many places, but particularly on the inner aspect of the left leg (seen in Fig. 2), quite large and deep-seated abscesses, calling for evacuation and the institution of proper treatment to prevent septic absorption. Meeting all indications as they have arisen from time to time, and supporting the patient in a proper manner amid conditions which at times have seemed hopeless, Dr. McIntyre has cared for the patient until now, when the case has assumed an insidious and chronic form. Large areas of vessels have become affected, and such wide-spread obliteration of them has resulted as to block up permanently their flow of lymph, thereby producing an everlasting lymphadema of the affected parts. From the history of the case, it would appear that there resulted from the abdominal injury many years ago an ordinary erysipelas or reticular lymphangitis, and that from the invasion of the lymphatic channels at this time the disease dates. Later on we find one leg affected with eczema, the other with a septic wound, and finally, the eczematous one, after an injury, becomes the seat of a traumatic erysipelas. At these three seats

of original attack there have occured successive attacks of diffuse lymphangitis, each recurrence causing an aggravation of the already bad condition. Thickening and induration of the skin and connective tissue have taken place, the dilatation and multiplication of the blood vessels keeping pace with the general connective tissue hypertrophy, until we have now a case of elephantiasis Arabum which, in some repects at least, is the most wonderful on record. In support of this last remark, I wish to state that it has been made after a careful examination of a great many works on the subject under discussion, among which may be mentioned those of Hebra, Neumann, Kaposi, Ziemssen's Encyclopedia (the volume on Skin Diseases), Crocker, the London *Lancet* since 1878, A. H. Buck's Reference Handbook Medical Science, Keen and White's American Text-book of Surgery, Hooper's Dictionary, published in New York in 1847 by Harper & Bros., Stephen Smith's Surgery, Dr. Titley in the *Lancet*, Vol. xx; M. Clot-Bey, A. J. Howe, etc. Felkin's case in the *Edinburgh Medical Journal*, 1889, page 779, is the only case I have found which very closely resembles the McIntyre one. In this instance the patient was an Eurasian woman.

FIGURE 3.

In a general way, I may close my remarks regarding this case by saying that the patient is a most hopeful, good-natured and happy woman, who, if it were not for the asthma, with which she has suffered much at times for the last six years, would not complain at all, notwithstanding the fact, that in addition to her terrible state, she has no husband to care for her and is in the most destitute circumstances, with several children still requiring the care that none but a mother can bestow.

FIGURE 4.

By reference to Figs. 2 and 3 a very interesting demonstration of a commencing lymphangiectasis may be seen on the lower part of the abdomen near the line of the groin. This condition is to the lymphatic vessels what dilatations and varicosities are to their congeners, the veins, and should the condition here seen, by confluence and aggregation, form distinct tumors, we will have what is called lymphangioma.

Extending downward from the umbilicus, corresponding to the linea alba, there is at present a fissure about four inches in length and two andone-half inches in depth (best seen in Fig. 3), the sides of which are in a state of ulceration and discharge a disagreeable-smelling mixture of serum, pus and lymph. During the past year the labia majora and minora and clitoris have become involved, but are not as yet enlarged to any great extent, in fact, there is no chance for any considerable enlargement, for the abdomen as it hangs, or rather protrudes, downward is as stiff and unwieldy as any elephant's belly on earth. To the sense of touch, moreover, there is nothing that I know of which feels more like the hide of an elephant than this does. There is very little feeling in this thick, rough, wrinkly, unctuous and void-of-hair skin. In the edema produced by other diseases and other causes there is pitting on pressure, but no part of this growth pits, even when great pressure is applied. The blood recedes to quite an extent from the point of pressure to return very slowly, indeed, but that is all.

While elephantiasis Arabum, the synonyms of which are pachydermia, Dal fil, Barbadoes leg, Elephantenfuss, mal de Cayenne, etc., may be con-

sidered a pandemic disease, we must consider it when appearing in this climate and from the causes which appear to have been responsible for it in this case, a very sporadic malady. Authors of the present day speak of elephantiasis Græcorum as lepra, and elephantiasis Arabum as simply elephantiasis or pachydermia, it being now certain that the two are distinct. I think that when we have a case like the one under discussion, and springing up in this part of the world from causes similar to those which appear to have been at the bottom of this case, the simple term lymphadema would be the best to employ, reserving the terms elephantiasis Græcorum for the lepra type, and elephantiasis Arabum for those cases found in hot climates near the tropics, particularly in Egypt, on the coast of the Mediterranean, the west coast of Africa, the Antilles (Barbadoes), Brazil, Malabar and parts of India, in all of which sections of the world it is most often met with and where, almost always, the cause of it is the entrance into the blood and lymphatics of the embryo of a nematode worm, the name of which is filaria sanguinis hominis, from its discovery in the human blood. For much of our knowledge in regard to this we are indebted to Wucherer, Salisbury, Lewis, Bancroft, Manson, *et al.*

With us in this country the disease probably always appears after chronic or frequently repeated acute inflammations of the blood and lymph vessels or anything which hinders the flow and favors the escape of the lymph in the lymphatics; and whether it be produced by an inflammation of the blood vessels or of the lymphatics themselves, or from external pressure, it matters not, we will have lymphadema, and following it there will be cell-proliferation and consequent increase in the surrounding tissues,

In tropical countries, but particularly on the Guinea Coast of Africa, the home of the filaria sanguinis hominis, every native into whose lymphatics the filaria gains entrance is not effected with elephantiasis. In some it produces chyluria, and in some it does not appear to affect the health at all. This fact, therefore, goes to prove that there it not in this parasitic worm, *per se*, any special poison, the presence of which is necessary in order that either chyluria or elephantiasis may exist. For, unless the parasites block, by their presence, the lymph channels, there will not be chyluria; and unless they develop in sufficent numbers to produce stagnation in the lymph vessels, there will not be, from them at least, an elephantiasis. It is, therefore, apparent that it is not necessary that we should have in this country, in order to produce genuine cases of chyluria or elephantiasis, the worm which Manson has so well studied for us, and we do not belive that the filaria sanguinis hominis had any part in the cause of the McIntyre case which we have just reported.

Manson says that this parasite resembles a delicate thread of catgut, animated and wriggling; and W. Essex Wynter tells us that the female has a diameter of about 1-100 of an inch and a length of 3 to 3½ inches. As yet no perfect specimen of the male has been found. The mouth is circular, without papillæ; there is a narrowing at the neck, and the tail is bluntly pointed. The parent worm is necessarily only found during operations involving the affected tissues, or in autopsies. On the other hand, the embryos occur in immense numbers and are readily found in

blood obtained by pricking the skin. They appear as active organisms, each being contained within a delicate sheath which projects slightly at one or the other end of the worm. Its length is about 1-90 of an inch and its diameter 1-3200.

Dr. Manson obtained ova consisting of oval bodies 1-500 by 1-750 of an inch. These are too wide to traverse the channels of the lymphatics and consequently become impacted and thus give rise to the conditions of elephantiasis and chyluria.

The mosquito plays a part in the spread of this disease in hot climates. Dr. Stephen Mackenzie's experiments showed that the embryos only occur in the cutaneous vessels while the patient is asleep, whether by night or day. As to what becomes of them during the period of activity of the patient nothing certain is known. During sleep, however, while the filaria embryos circulate in the blood of the sleeper the mosquito fills himself with the infected fluid and flies to some stagnant pool of water, his natural haunt, upon the surface of which he drops to die. The embryos of the filaria contained within the blood are thus set free and become ready to enter the circulation of the next thisty mortal who drinks the water.

INTESTINAL FERMENTATON.

BY J. H. KELLOGG, M.D.

While much attention has been given during the last twelve years to the chemistry of digestion, comparatively little has been done in the study of the bacteria of the stomach in relation to practical therapeutics. In this paper some conclusions are presented which are drawn from a careful comparative bacteriological and chemical study of the stomach fluid in three hundred and seventy-seven cases. The information sought by the mode of examination adopted was:—(1) The number of microbes per cubic centimetre of stomach fluid; (2) the presence or absence of gelatin-liquefying bacteria; (3) the presence or absence of gas-producing bacteria; (4) the presence or absence of acid-forming bacteria; (5) the toxicity of the products of bacterial activity in the stomach fluid.

Within the past year three hundred and seventy-seven stomach fluids had been examined from more than three hundred and fifty persons. Of the fluids examined, one hundred and ninety-one were found to be absolutely sterile, while sixty-seven contained less than fifty bacteria per cubic centimere, a number so small as to be considered accidental, so that these also could be regarded as sterile; while one hundred and two contained bacteria from a few hundred to more than two million per cubic centimetre. I was not surprised to find large numbers of bacteria, but was considerably surprised to find so large a number of perfectly sterile stomach fluids, especially since Cadeac and Bournay have recently asserted that the stomach and intestinal fluids are not destructive of micro-organisms as was formerly supposed, and since the assertion is commonly made by bacteriologists and physiologists that bacteria are not only present in the alimentary canal but are useful in the digestive process.

The fact that no bacteria whatever were found at the end of the first hour of digestion in 50.8 per cent. of three hundred and seventy-seven stomach fluids examined, seemed to be all the evidence required to demonstrate the proposition that the normal stomach is able to destroy those microbes which accidentally enter it through the mouth and nose, and that microbes play no part in normal stomach digestion. Kürhoff and Wagner and others were quoted for further confirmation of this view.

The method of chemical examination employed by me is based chiefly upon that of Hayem and Winter. In comparing the results of bacteriological examination with the results of chemical examination, I have carefully noted the relation of bacteria to: (1) the calculated acidity, which represented the combined value of free hydrochloric acid and the combined chlorines diminished by the fatty acids present; (2) the acidity; (3) the free hydrochloric acid; (4) the combined chlorine; (5) the co-efficient of starch digestion; (6) the co-efficient of salivary secretion; (7) the co-efficients of chlorine liberation; (7) the co-efficient of absorption.

The summary was as follows:—Of the one hundred and ninety-one sterile cases, eighty-three were cases of hyperpepsia, eighty of hypopepsia, and in twenty-eight the amount of chlorine eliminated was normal. Of the eighty-three cases of hyperpepsia, combined chlorine was in excess, and free hydrochloric acid was normal, or in excess, in fifty-five cases; in twelve cases free hydrochloric acid was deficient, and in one it was absent. Combined chlorine was deficient, or less than 1.55 milligrammes per hundred cubic centimetres in sixteen cases. Of the eighty cases of hypopepsia, hydrochloric acid was deficient in sixty-eight, and normal, or in excess in quantity, in twelve. It thus appeared that a sterile condition of the stomach fluid might exist in hypopepsia, as well as hyperpepsia, and it was, indeed, a somewhat surprising fact that in forty-two per cent. of the sterile cases hypopepsia existed, whereas hyperpepsia was found in only forty-three per cent. of the cases. In forty-eight per cent. of the cases in which bacteria were absent free hydrochloric acid was less than normal in quantity, being below twenty-five milligrammes per hundred cubic centimetres of stomach fluid, and in 23.5 per cent. it was absent altogether.

It was noticeable that anærobic germs were found most abundant in cases in which the total acidity, the free hydrochloric acid, the co-efficient of liberation, and the co-efficient of absorption were the lowest. It appeared that the anærobics flourished better in an acid medium, or rather resisted the influence of hydrochloric acid better than did the ærobic.

The co-efficient of absorption in the class of anærobic infected cases was ·38 as compared with ·34 in the sterile cases.

Turning now to the method of determining the relation of urinary toxicity to the bacteria in the alimentary canal, the normal urotoxic co-efficient was ·46. In the case of a lady suffering from a severe attack of migraine, stomach infected to a high degree, the urotoxic co-efficient was found six times normal. In another case of marked infection, that of a young woman suffering from epilespsy, the urotoxic co-efficient was found to be more than double the normal. Probably numerous similar cases could be cited.

A fact of considerable importance which these studies have established is that the tests for fermentation, heretofore relied upon, are of little value. Bacteriological examination is the only means by which it is possible to determine accurately the presence or absence of gastric infection.

For combating infection of the stomach, the stomach tube is certainly the most efficient of all therapeutic measures, but most important of all is careful regulation of the diet. Foods already undergoing fermentation or decomposition must necessarily be avoided, and for a time at least those foods which readily undergo decomposition of fermentation—that is, such substances as furnish favorable nutrient media for the development of the micro-organisms found in the stomach.

In cases of excessive amount of free hydrochloric acid, suppression of foods containing ferments and perhaps for a time of foods which encourage the development of ferments is indicated. I find a dry farinaceous dietary of greatest service in these cases, contrary to the practice of many others; but care must be taken that the starch so far as possible is converted into dextrin. In extreme cases I use a starch-free dietary, or rather a dietary in which the starch is completely converted into maltose and combined with prepared nuts. Subnitrate and subgallate of bismuth, charcoal, and sulphur are useful. In hypopepsia and apepsia lavage is of vast service. Well-cooked farinaceous foods are digestible, but meats, butter, cheese, oysters, and fish must be carefully avoided for a few weeks or months in cases of mild infection. In dilation of the stomach dry aseptic food should be given; in gastric catarrh, kumyss, buttermilk, or, better, koumyzoon. Several other measures, including massage, etc., received consideration, and illustrative cases were cited.

TREATMENT OF DIABETES MELLITUS WITH RECTAL INJECTIONS OF PANCREATIC GLANDS.

Lissère has treated two cases of diabetes mellitus with fresh pancreatic glands chopped fine and left twenty-four hours in a saline solution. As the stomach refused to tolerate this, he administered it in rectal injections once or twice a day. The results were that the polyuria was very much diminished, as also the amount of sugar in the urine. Both the sugar and the diuresis returned to their original conditions whenever the injections were suspended. They also exerted a favorable effect upon the general health; the patients gained in weight and lost their excessive thirst.—*Nouveaux Remèdes*, June 24th, from *Med. Obozr.*, No. 4.

ECZEMA OF THE VAGINA:—

℞—Ichthyol ammon.....parts iss-ij.
Amyli tritici.....
Zinc. flor.....aa parts xij.
Vaseline.....parts xxv.
M.—et. ft. pasta. Sig.—Locally.—*Von Sehlen.*

OBSTETRICS AND GYNAECOLOGY.

IN CHARGE OF

J. ALGERNON TEMPLE, M.D., C.M., M.R.C.S., ENG.,

Professor of Obstetrics and Gynæcology, Trinity Medical College; Gynæcologist Toronto General Hospital; Physician to the Burnside Lying-in Hospital. 205 Simcoe Street.

ECTOPIC GESTATION.

BY W. GILL WYLIE, M.D.

When the President asked me to read a short paper on ectopic gestation I agreed, for I knew that little would be needed after Dr. Mann had read his paper.

I will do little more than give you a report of four or five of the more interesting cases that have occurred within the last four or five months in my private practice and clinic at Bellevue. Since November 18, 1895, I have had five cases of ectopic gestation in my private practice, four in my sanatorium, and one outside that I have operated on, and four in my service at Bellevue. Three were cases of large hæmatocele complicated by sepsis; the latter were operated on from the vagina, emptied out, and drained. All have recovered. This is a large number to find in so short a time; but as I grow more expert in diagnosis, and my practical knowledge of the subject increases, the relative percentage seems to increase, and some years it seems to show up in about five per cent. of all cœliotomies. Then I have other cases in which I can only account for the symptoms, where I do not feel justified in operating, except by diagnosing probable extra-uterine pregnancy, causing hæmorrhage and local pain—not enough hæmorrhage to greatly weaken the patient or cause a large mass or tumor to develop in the broad ligament. The real difficulty is to make an early diagnosis. In uncomplicated cases, when there is no hæmorrhage from the fimbriated extremity in the early weeks of ectopic gestation, or rupture of the tube before the second month, if one gets a chance to examine under these conditions, a diagnosis is not difficult. If the mass on the side of the uterus is as large as an orange the indication and justification for cœliotomy is plain whatever the tumor may be, and an exact diagnosis is not important.

In all cases where there are any signs of dangerous hæmorrhage going on in the pelvis little time should be lost in trying to make a clear diagnosis, and the old "shilly-shally" delay to get your patient over the shock by stimulants, time to rally, etc., is intolerable. When hæmorrhage is going on inside, proceed to open the belly at once, and let some one else give hot saline rectal enemata and dypodermatic injection at the same time, while you get in and tie the bleeding vessels before the case is hopeless. Where the child is viable and beyond the fourth month, one

may be justified in waiting and watching till after the eighth month, so as to save the child and mother both by an operation.

Ten or twelve years ago, and even six or eight years ago, I have known the time in this Society when I was almost alone in my advocacy in favor of laparotomy as soon as an ectopic gestation could be diagnosed, and I have always opposed the use of electricity. To-day there is no one to speak against cœliotomy, and I doubt if many will ever again use electricity in ectopic gestation.

The real difficulty is in making a satisfactory diagnosis in ectopic gestation before hæmorrhage endangers life.

The belief, so commonly stated and so generally accepted in the past, and still held by many, that in tubal pregnancy hæmorrhage is not at all likely to occur until after the end of the second or well in the third month is wrong, and the chief motive in my being here to-night is to report in detail several cases demonstrating the fact that hæmorrhage frequently occurs very early in tubal pregnancy, and may be very troublesome, if not dangerous to life.

November 17, 1895, I was called to see Mrs. K., aged twenty. She had been married about six weeks. Before marriage she had always been well; menstruated regularly without pain, normal in amount, and lasting four days. Her last menses (October 25th) came on about as usual, but three days after menses ceased there was some pain, especially on the left side, and a slight flow began and has continued most of the time for the last three weeks. At times the flow is quite free. She has kept quiet, and lately in bed. Has had no fever and the pain has not been very severe. At times she has felt faint and weak, but has not had regular morning sickness. On local examination, I found the uterus soft, somewhat enlarged, and lying back in the pelvis. In front of the uterus and a little to the right side of the median line I could feel what appeared to be the enlarged body of the uterus flexed forward, but the mass was large enough for a two and a half months' pregnancy. I could not trace out the direct connection of the softened cervix, as the upper part of the cervix lay well back in the pelvis. On the left side I could not define a tumor, but the broad ligament felt full and resisting. The patient, although giving a history of having enjoyed good health, was a frail and delicate little blonde, and had lost enough blood to give her a small pulse and very pale face. I advised examination under ether, and to be ready for either a curetting or any operation that might be indicated. I told the mother that it might be a serious case, as I suspected extra-uterine pregnancy, and wished to have the patient at my sanatorium. All arrangements were made to have her moved. Later her mother became alarmed and sent for her family doctor, who examined the patient and said he did not think operation necessary. Fortunately, I was in the neighborhood, and as the patient had not kept the appointment, I thought a severe hæmorrhage might have occurred, and on entering the house met the doctor. After explaining my views of the case, Dr. Mendleson readily agreed to my plans. The next morning (November 19th) I had the patient etherized, and I could easily make out that the mass in front and to the right side was a tumor separated from the uterus, which was

enlarged, softened, and pushed back in the pelvis, and that the right tube and ovary were not normal. The uterus was then curetted, but nothing more than some soft shreddy tissue was found. The abdomen was then opened in the median line, and, as the peritonæum was incised, black clots of blood were found scattered among the intestines, and a mass of loose black clots about the left tube and ovary. There was hæmorrhage going on at the time, apparently from the fimbriated extremity of the tube. The tube was enlarged, and about its centre was distended by a dark mass about the size of a big chestnut.

The right tube was normal, but the left ovary was a small ovarian cyst the size of a large lemon. Both tubes and ovaries were tied off, the abdomen cleared of clots, and the wound closed. The patient made an uninterrupted recovery, and has been in good health since. We thought of leaving the left ovary and the right tube, but decided not to make the experiment on so frail a subject. The uterus was left, as it was healthy, and the patient young and married.

I can not claim that I made a positive diagnosis of ectopic gestation in this case, but my suspicions were strong, and the presence of the small ovarian tumor gave me the needed evidence sufficient to justify an exploratory incision.

The rupture in the tube occurred during removal. This case plainly demonstrates that serious if not dangerous hæmorrhage may occur before the third month of ectopic gestation.

February 6, 1896, I was called to Brooklyn to see Mrs. B., with Dr. Arthur Paine, of Brooklyn. The following history was given: Aged thirty three; first married 1884, and had three children; married again 1892, and two years and a half ago had a child; was always healthy; had had no local trouble; menstruated regularly and normally. January 4th a flow came on which was not normal in quantity or color, being scanty; this kept up for a week, and then what appeared to be normal menstruation started up, and she flowed a week. In the midst of the flow she had a severe pain in the right groin and right leg. The pain was severe and lasted three or four days. She felt weak, but had no fever. January 29th she had a violent pain in the right iliac region which lasted five hours, with repeated attacks of faintness.

On February 5th flow began again, and the pain returned in her side and leg. Had no fever. After listening to Dr. Paine relate the case as above, I said it looks like an extra-uterine pregnancy, and if I find any mass on the right side, it will be a case for exploratory incision. The basis of my opinion was: a healthy woman, with no history of local disease, irregular menstruation, sudden and severe local pain over one Fallopian tube, and *no fever*. Return of pain and flow without fever. Faintness and local pain on one side and no fever. On examination, I found a softened uterus, with a distinct rounded tumor about the size of a lemon on the right side and some abnormal fullness and tenderness of that broad ligament.

The patient was brought to my sanatorium, and the next morning the abdomen was opened. There were free clots in the abdomen and pelvis, with a mass of black clots about the right tube and ovary. There was

free hæmorrhage apparently coming from the fimbriated extremity, and the tube was distended with a dark-bluish mass. The right tube and ovary were removed. The clots cleared out of the pelvis and abdomen. The left tube and ovary and uterus seemed normal, and were not removed. The abdomen was closed without drainage. The patient recovered without rise of temperature, and has been perfectly well since.

The small cyst of the right side was not in this case a true ovarian cystoma, but was of material service in enabling me to confirm my diagnosis of ectopic gestation, and justified an exploratory incision.

This case was easily diagnosed, and the little cyst of the ovary made it easy to confirm. In this specimen the tube is not ruptured, and as the amount of blood was considerable, it demonstates that early hæmorrhage from the fimbriated extremity of the tube may be dangerous.

March 19, 1896, Dr. J. Kelley sent me Mrs. D., aged thirty-three; married sixteen years; has had four children, the last one five years ago. Has had one miscarriage; menstruation has always been regular till last December it failed to come. In January, at the regular time, or a little later, she thinks she had a miscarriage; since then she has had a constant slight flow. She has had some pain on the left side and felt weak and faint, but looks fairly well; no fever. I made a simple examination and found the uterus enlarged, and marked fullness and tenderness, especially on the left side. I sent her at once to my sanatorium to get ready for taking ether, as I expected to curette to stop the flow. When I examined her under ether I found a large, soft mass the size of a large orange in the left broad ligament, and nothing in the uterus except shreds. I then diagnosed probable ectopic gestation, and not being well prepared to do a laparotomy, and as her condition was excellent, I decided to let her come out of ether, notify her husband and Dr. Kelley of my diagnosis. Early the next day she was again etherized and the abdomen opened. The abdominal cavity contained many large black clots. The left Fallopian tube was distended to the size of a good-sized sausage, and when pulled up had a rupture in it. The ovary contained a good-sized cyst, and was buried in old clots of blood. The left tube and ovary were tied off and removed, and the right was normal and was not disturbed. The abdomen was carefully cleaned of all clots that could be found and closed without drainage or washing out. The patient did well for eight days, when she had pain in her right side, with rise of temperature to 101° and the next day 102° and over. On examination, I found a mass the size of an orange on the left and back of the uterus, evidently due to an exudation around a lot of serum that collected and settled there from some old clot not removed at the time of operation, and would have been carried off if I had made drainage either by means of a glass tube upward or by gauze or rubber by the vagina. The temperature fell, and the exudation was absorbed, and she left the hospital in the fourth week in good condition. Had the sepsis been more decided, an abscess would have formed, or septic peritonitis might have resulted and caused death. It proves that drainage, as a rule, is safer than trusting to getting out all material liable to result in sepsis in such a case. Had the symptoms grown more serious, I was ready in this case to open the *cul-de-sac* and empty the fluid and drain.

When the abdomen was opened, dense adhesions were found in the pelvis. About the right tube was a large mass of clots, and the tube was distended with a dark mass the size of a lemon. This mass lay up in front on top of the bladder. The left ovary was the seat of a small tumor about the size of a lemon. There were no signs of pus, but there were adhesions about the right side that involved the vermiform appendix, necessitating removal by ligature. The uterus, both tubes, and ovaries were removed completely, and gauze drainage and rubber tube left in the vagina. The patient made a complete recovery. There was a slight rise of temperature for a day or two. No diagnosis was made until under ether, and salpingitis or extra-uterine pregnancy was mentioned. The cyst on the opposite side again helped us.

December 5, 1895, I found ready for operation at my clinic Mrs. F., aged twenty-six; married; always healthy till after the birth of a child nine years ago. Since then she has had three miscarriages. After the last one, four years ago, she was in my clinic and was curetted, and the cervix and perinæum sewed up. She was well till last year, when she again had hæmorrhages and was curetted. This relieved her, and she was well until five weeks ago, when she had severe pain on her right side and began to flow. At first the flow was very free, and she has had more or less bloody discharge since. The patient was etherized, and on examination I found a softened uterus well back in the pelvis. On the left side was a small cystic tumor the size of a lemon. On the right was an enlarged tube and fullness of the tissues of the broad ligament anteriorly.

DISCUSSION.

The PRESIDENT called attention to the interesting points which had been dwelt upon by Dr. Wylie in his paper—namely, the difficulty of diagnosis where there has been hæmorrhage from the tube, and especially without examination under an anæsthetic; the question of drainage —whether it is necessary to wash out and drain a simple non-infected case; and fever as a symptom of ectopic gestation in the absence of a sign of old trouble.

Dr. A. P. DUDLEY inquired whether the specimens had been subjected to microscopical examination, and whether chorionic membrane were found to be present.

Dr. WYLIE replied that in two or three of the Bellevue cases they were found, but the specimens present he did not think had been so examined.

Dr. DUDLEY said that his reason for asking was that it was difficult to make a diagnosis of extra-uterine pregnancy in the very early stages, especially such cases as had been reported, and also because of the fact that hæmatosalpinx due to menstruation or to pathological conditions attending menstruation was so similar in appearance to an ectopic gestation, that unless the tube and its contents were subjected to microscopical examination one would sometimes labor under a mistake. He had made it a practice for years to make laporatomy during menstruation, and he had never yet opened the abdomen of a woman while menstruating that

he did not find from two to four ounces of free blood in the abdominal cavity. He had found blood clots as well, and had found the fimbriated extremities, which were always sympathetic with the condition, much congested, and ready to bleed at the slightest touch and manipulation. He had found the tubes containing blood, some of them as large as his thumb. Another interesting point in the paper was the question of leaving a tube and ovary, even though it be somewhat diseased, in a woman who was just married. It seemed to him a terrible thing to have to remove tubes and ovaries from a woman who was only seven weeks married, even though there was a small cyst in the opposite ovary.

Dr. WYLIE said that although it was a small cyst, it involved every part of the ovary, as would be seen by examination of the specimen.

Dr. DUDLEY (continuing) said that his reason for making his statement was that one of the gentlemen with whom he had been battling for a great many years respecting hysterectomy for different diseases of the female organs admitted that he would very soon report two cases of delivery of live children where he had removed both tubes and ovaries, so far as he knew, so that in all probability in both cases a portion of the diseased ovary was left, and in both cases the women impregnated and carried to full term. He found reported in a Berlin journal a few days ago a case of hysterectomy for uterine disease where both tubes and ovaries were left, the tube being brought down into the vagina, and the woman impregnated and carried for six weeks in the tube. If there be a quarter part of one ovary that could be left with the tube he would leave it in every case, and would make a laparatomy later on if it were necessary to remove the tube and ovary for disease. As to the method of attacking such conditions, he believed that the abdominl wall was the best route. It is not in the power of any man to work through a five-inch narrow canal, and manipulate an adherent extra-uterine pregnancy of the intestines or omentum, and remove it with as much safety to the woman as though he went through the abdominal wall. The uterus certainly would not have to be removed in order to get at the pregnancy. The argument would not hold water, because one might just as well say, "Do a hysterectomy for a large pyosalpinx; do not attempt to break up its connections; drain it and leave it there." The woman will have as many reflex symptoms from the pyosalpinx as she will from the extra-uterine sac. He believed that drainage through the vagina is the best. Break up the adhesions, pack gauze behind the uterus, and then open the *cul-de-sac* and bring the drainage down through If necessary, make double drainage. He had been in the habit of packing one piece of gauze into the pelvis and bringing its end through the vagina, and putting another one on top of that and bringing it through the abdomen, being able to pull the tube in different directions and give relief to the patient. He believed that the tendency was to drift away from the foundations upon which surgery should be forever fastened, which was to conserve and save these organs to patients rather than to take them away. A week ago he received a letter from a patient where he had taken out an enormous ovary with the tube attached. The opposite ovary was diseased, and he took out a portion of it. The patient has been two and a half

years without pregnancy and is now carrying. He believed that experiences of that kind should lead to the saving for the woman of everything that was possible to be saved.

Dr. W. E. PORTER said that he desired to refer to the comparative absence of pain in a great many of these cases of ectopic gestation. He had seen three cases in which there was a very considerable amount of hæmorrhage, which were undoubtedly cases of ectopic gestation, where the patient experienced at the time of the rupture a sharp pain, lasting but a short time in each instance, and the symptoms of hæmorrhage became finally most marked. There was one instance in particular where the hæmorrhage was very slight at first, apparently; there was practically no pain, simply an acute discomfort during an hour or more, which passed off, and there were evidences of continued slight hæmorrhage for a period of three days. Vaginal examination revealed a mass filling up the pelvis, so that when operation was done at least a pint of blood clots were found in the pelvic and abdominal cavities. The question of removal of the tubes must rest entirely with the condition of the individual case. If it was possible to leave one it was wise to do so. But if there was any considerable destruction of the tube, and if the ovary was badly diseased, it was best to remove it, preferably by the abdominal method, from the fact that complete command of the parts is obtained. Personally, he preferred to use very little drainage. If thorough abdominal irrigation, with plenty of sterilized saline solution is used, the clots can be flushed out, and there will be less difficulty afterward in the way of adhesions, and very rarely will there be any subsequent sepsis. If drainage is used at all, he preferred to use it through the vagina in the form of gauze rather than a glass tube.

DR. H. T. HANKS said that he remembered the last time he discussed the subject in this room. He was one of those at that time who had for a number of years believed in the use of electricity for the destruction of the fœtus instead of resorting to an operation. He had been a firm disciple of Dr. Thomas, who had advocated electricity instead of the knife for this condition. Dr. Janvrin had advocated operating at that time for an unruptured pregnant tube. Later the conviction had grown upon him that when a case of ruptured tubal pregnancy was found the thing to do was to open the abdomen. He had said that where an operating gynæcologist could be had the scalpel should be used, but if one could not get a gynæcologist, electricity might be used to destroy the ovum. He did not care to qualify that statement to-night, but there are but few towns in the United States to-day where there are not one or two who can do an abdominal section. The question to-night is somewhat different from the old discussion. It is a question of which operation shall be done in the different cases. There is no doubt that an operation, in many of the cases, can be successfully done through the vagina. He could only emphasize the point made by him a few nights ago, that to treat all these cases in the same way was unnecessary and unwise. A good operative gynæcologist to-day should be an all-round surgeon, and should be able to attack it through the abdominal wall or through the vagina, as may be best for the patient. We ought to operate from above in all bad cases

of ruptured tubal pregnancy, even if the patient is in collapse. Of course not without proper stimulation first. But where there is an unruptured tube, which you are morally sure is a tubal pregnancy, the operation should be done through the vagina. Each case should be treated on its own merits. In ruptured pregnancy, where the hæmorrhage is only slight, but where you are sure it is a tubal pregnancy, operate from below; and where the rupture is into the broad ligament the operation should be from below. The records prove how easy a matter it is to open and empty the blood clots and control the hæmorrhage in the broad ligament. He differed from Dr. Dudley, who had said that all women were liable to have hæmorrhage in the abdominal cavity if the operation is done when they are menstruating. He had operated many times during menstruation, and never found blood in the abdominal cavity. As to the prognosis, he recently had two cases of tubal pregnancy at the same time. One was the wife of a wealthy gentleman on Seventy-first Street. She presented all the subjective and objective symptoms of tubal pregnancy, with slight hæmorrhage, but they were unwilling to have an operation. She is alive to-day, and very well, but has a tumor on that side the size of a mandarin orange. The other patient lived on Fifty-eighth Street, a young woman, the mother of one child. She presented all the symptoms of a ruptured tube. He watched her for a fortnight before doing a suprapubic operation. An interesting point of the case was that the patient never carried any temperature—it was never half a degree above the normal, in fact. The operation showed, however, a ruptured tube on the left side and a pyosalpinx on the other.

DR. PRYOR said he wished to speak of the question of diagnosis. By looking over the anatomy the members present would find that the distance between the *cul-de-sac* and the vulva, and the *cul-de-sac* and the abdomen is about the same. Inasmuch as nearly all these women have had children before the ectopic gestation has occurred, there is usually ample room in the vagina if you use Trendelendurg's posture. The *cul-de-sac* is opened, and no matter how large the sac on one side, by pushing the uterus up behind the symphysis with Péan's trowel, and depressing the posterior flap, it is possible to look into the pelvis, and he had even demonstrated the vermiform appendix three times in that way. The diseased tube can be seen perfectly well, even if the uterus is crowded to one side and the pelvis is seemingly filled up by the ectopic mass on the other. The intestines are pushed up, and there is no difficulty in getting them out of the way.

DR. VINEBERG (in closing) said the points of diagnosis were exceedingly difficult, and every one would admit that he had sometimes been mistaken. The cases which give him the most trouble are the dispensary cases, where the woman comes with an imperfect history, has perhaps aborted, but has had a continued irregular hæmorrhage, and on examination you find a somewhat enlarged uterus with a mass to the one side. The patient has not been under observation. It is impossible in such cases to tell positively whether you have a pyosalpinx there, following an abortion with some infections, or whether you have an ectopic gestation. He had before called attention to the fact that in intra-uterine

gestation there is an irregular enlargement of the uterus which will give rise to all the physical signs and some of the subjective symptoms of extra-uterine pregnancy. He had reported a case where a good diagnostician made a diagnosis of extra-uterine pregnancy, and the woman aborted in the usual way. Dr. McLean had reported an interesting case in which the condition was only ascertained after the abdomen was opened, and it was found that the gestation had occurred in the *cul-de-sac*, and the uterus was bound down by adhesions. As to the question of route, he favors the vaginal route wherever it can be adopted, but unless very favorably situated he prefers going through the abdomen for extra-uterine gestation, for the reason that he does not believe good, safe surgery can be done unless you can deliver the uterus through that vaginal incision, and the uterus in ectopic gestation is very soft and pliable, and you are liable to lacerate it very considerably in taking it through the incision. He was interested in what Dr. Pryor had to say about being able to see these parts so distinctly through the incision in the posterior *cul-de-sac*. To him it appeared to be rather difficult, and he should prefer, as he has always done heretofore, to make an incision in the anterior vaginal wall.

Dr. Wylie (in closing) said that he did not in his paper take up the question of operating, because he thought he had pretty plainly indicated which method he favored. He had had so little trouble and so few mishaps in his operations for ectopic gestation that he saw no reason for changing. In some cases he had not known what it was, but where he did know and felt that he had the choice, he would nearly always take the upper method. In the two or three cases where he operated by the vagina it was a matter of necessity; the patients were badly septic and he did not consider it safe to open the abdomen and do a prolonged operation. As to operating during menstruation, he had done it a great many times, and had seen swollen and congested tubes, but he had not found any free bleeding in the peritoneal cavity unless there was some injury. He did not think the cases he had would have been mistaken for any such condition. The trouble was all in one tube, and the other showed plainly there was no trouble. For the satisfaction of the doctor he would say that in all the eight cases he only took out both tubes and ovaries in two cases, one of them being an ovarian cystoma which invovled the whole ovary, and the other a case of pyosalpinx where the tube was useless. He did not believe in taking out the tubes and ovaries of a young woman except in cases of necessity, but in the case in question he had consulted with the woman's husband and mother, and after due deliberation they thought they had better not make any experiments by leaving a healthy tube on one side and a probably healthy ovary on the other.

The Economic Season.—Benham: "I wish you would ask Mr. and Mrs. Jones around to dinner to-morrow." Mrs. Benham: "What is your hurry about it, all of a sudden?" Benham: "I heard Jones' doctor telling him to-day that he mustn't eat any solid food for a week."—*Texas Siftings.*

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

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INSANITY FROM POISONS GENERATED IN THE INTESTINES.

Apropos of a paper recently read in London by Dr. Allan McLane Hamilton, of New York, the *Medical Press and Circular* said editorially in its issue for May 27th:

"We are so much accustomed to regard insanity in its various forms as the outcome of hereditary influence *plus* special strain that it is useful to be reminded occasionally that mental disturbances are not always so strictly constitutional, and that mental aberrations may, in a certain proportion of the cases at any rate, owe their orgin to such ephemeral and preventible causes as functional disorder of the intestinal canal. A paper on this subject was read by Dr. Hamilton, of New York, at the last meeting of the Medical Society of London, and although we are by no means prepared to admit the accuracy of all his deductions, it may fairly be asserted that he has succeeded in demonstrating that certain varieties of insanity are the direct outcome of the action of poisons elaborated in, and absorbed from, the intestinal tract. Years ago, Dr. Lauder Brunton directed attention to the phenomenal activity of the toxic products elaborated in the course of an ordinary attack of indigestion, and although he does not appear to have included the production of even temporary insanity among the troubles to which they may give rise, he established a striking analogy between their action and that of curare. The intestinal tract is the habitat of an almost incredible number of bacteria and fungi which, or some of them, assist in the process of food disintegration, preparatory to assimilation, and under normal circumstances they hold each other in check. It is easily conceivable that under altered circumstances, either in the direction of a change in the composition of the fæces or an altered environment such as would be afforded by a condition of chronic catarrh, the balance of bacterial power may be disturbed, the beneficent microbes taking a back seat while the more virulent species, temporarily at any rate, gain the upper hand. If we add to this an unduly prolonged retention of the abnormal fæces in the intestines, we have all that is required to provide, and permit of the absorption of, soluble toxic products capable, as laboratory experiments have repeatedly shown, of exerting marked pathogenic effects on the nervous system. Under ordinary circumstances, in the healthy animal organism, the liver acts the part of a chemical filter, eliminating from the blood all such toxic products which are thus prevented from entering the general circulation.

When the liver function, for any reason, is imperfectly performed, these products are permitted to pass, and are left free to work their effects on the delicate tissues of the central nervous system. In persons who have acquired the habit of periodical evacuation of the intestines, it is surprising what an amount of discomfort and inconvenience is entailed by even a moderate delay in the accustomed rite, and it can not excite surprise that the systematic neglect of the intestinal function should give rise to more permanent and more serious manifestations. According to Dr. Hamilton's observations, it seems that a fair indication of the condition of the intestinal canal can be obtained from a careful examination of the urine. He confessed that he had been unable to discover any definite standard of abnormal urine which could be held to be characteristic of insanity, or of any particular form of insanity, but he pointed out that intestinal putrescence determines the presence in the urine of an appreciable quantity of indican, and when indican is present there is also a more or less marked alteration in the ratio of preformed sulphates. These indications, he stated, are generally found in acute insanities, especially those characterized by rapidly developing symptoms. Changing illusions, hallucinations of unsystematized delusions, in association with insomnia, pallor, constipation, and rapid exhaustion, are, in his opinion, generally due to autotoxis of alimentary origin, and this condition is also responsible for various post-febrile, traumatic, alcoholic, and drug insanities. It is worth while recalling, while dealing with this subject, that the same effects have been attributed by various observers to the presence of uric acid in the blood, and as the effect of an excess of uric acid in the production of certain forms of mental disturbance is generally conceded, it is a difficult and a delicate task to distinguish which is primary and which secondary. The worst of the 'professors of uric acid' is that they ride their hobby to death or as near death as common sense will allow of. To listen to them, when they condescend to impart their views, uric acid is the *fons et origo mali* in most of the diseases, apart from the specific fevers, to which human flesh is heir. If the treatment based on the autotoxis hypothesis is shown to be successful in a certain class of cases we are assured that it is because this very treatment has incidentally for effect to favor the elimination of the surplus acid, and so on. Another class of crities object that the intestinal irregularity is the result, and not the cause, of the central nervous trouble, though, if treatment directed to the supposed intestinal focus proves successful, it is not easy to understand their process of reasoning. Under these circumstances it is well to go on broad general principles. We may take it as proved that a certain proportion of cases of insanity not obviously due to cerebral degeneration or other toxic influences may be immensely improved and even relieved by measures having in view the antisepsis of the intestinal tract. The washing out of the large bowl and the administration of antiseptics, such as naphthaline or salicylate of sodium, certainly seem to be attended by marked and favorable effects in these cases, and this is enough for the practitioner who may not have leisure to enter upon the judicial consideration of questions of ætiology and proximal therapeutics. The success of the treatment shows that, contrary to the dictum of Shakespearean skeptics, medicine can, under

certain circumstances, 'minister to a mind diseased.' It may lessen the anxiety of the Government at a time when the increase of insanity is exciting dismay to be told that one of the most fertile causes is chronic constipation or intestinal catarrh. In any case the thoughtful and suggestive paper which Dr. Hamilton brought before the Medical Society of London, ought to have for effect to direct the attention of those in charge of the insane to an important department of clinical observation hitherto comparatively unexplored, which may possibly in the near future give a rich harvest of therapeutical results in a whole category of mental diseases usually assumed, on insufficient data, not to be amenable to medicinal treatment."—*The New York Medical Journal.*

CYCLIC ALBUMINURIA.

PIERRE MARIE (*Sem. Med.*, February 5th, 1896) reports a case and discusses the subject. He defines the disease as albuminuria (1) occurring in apparently healthy subjects, (2) being intermittent in its course, and (3) subject to certain conditions. As regards (1), the discovery of albumen may be perfectly fortuitous, or the patient may suffer from general debility, heaviness of the limbs, palpitations, headaches and hæmorrhages (epistaxis or hæmoptysis). (2) Intermittence: many healthy persons may have transitory albuminuria under certain conditions. Hwass found albumen in 98 out of 635 apparently healthy soldiers (15.4 per cent.), the quantity of which was not influenced by exercise. Capitan and Spiegler found albumen, probably from reflex causes, present in 100 cases of scabies. Thus transitory must be distinguished from true cyclic albuminuria. (3) Conditions: it is doubtful whether cases which are influenced by food or cold are examples of this disease, for in perfectly typical cases they have often no effect. The cardinal symptom is that albumen is present only when the upright position is assumed, and vanishes on lying or sitting down, even when hard work is done by the patient on an exercise apparatus ("postural albuminuria" of Stirling). In the case reported by the author, however, albumen appeared sometimes when the patient was in bed, at times of great annoyance or stormy weather. *Albumen.*—The quantity is always small. Its chemical composition varies with the individual and in the same individual at different times. Serum albumen, peptone, propeptone, nucleo-albumin, etc., have been found. *Urine.*—The quantity is not much affected. If at any time it is less than normal there is said to be a corresponding increase in the albumen. The specific gravity varies, but is usually normal or higher (1020 to 1030). The acidity is usually *plus*. Teissier gives the following cycle in this disease: (*a*) *plus* excretion of colouring matter, (*b*) albuminuria, (*c*) *plus* excretion of urates, (*d*) *plus* excretion of urea. *Etiology.*—(1) Sex, more common in females. (2) Age, adolescence and early adult life. (3) Heredity, especially in children of gouty and arthritic parents (Teissier). (4) Disputed antecedents are renal affections, colds, overwork, and infective fevers. After reviewing the various theories as to the nature

of this complaint, the author states that he considers it to be a special morbid entity, probably depending on perverted function of sympathetic nerves, and having a close analogy to migraine. He does not agree with those who believe the cause to be a "minimal" organic renal lesion, as the almost indefinite time the disease can last without bad effects, and its not being influenced by the quality of the food, are against that theory. Casts are not generally present, but Marie does not consider the presence of casts in small numbers to indicate organic disease, for Hwass, by means of centrifugalisation, found them 69 times in 74 healthy soldiers. Of these, 48 alone had albuminuria, and that of a transitory character.—*British Medical Journal.*

EXTRA-PULMONARY LOCALIZATIONS OF THE PNEUMOCOCCUS.—NICOLAYSEN (*Norsk Magazin for Lægevidenskaben*, April, 1896) reports the following cases: A boy, aged 4, died after a month's illness, the symptoms of which suggested pulmonary tubercolosis, followed by meningitis. At the necropsy was found a double, non-tuberculous, lobular pneumonia, double empyema, purulent meningitis, and a left suppurative otitis media. In the pus and in the organs attacked Fraenkel's pneumococcus was demonstrated by means of cultures and experiments on animals. The other patient, a boy, aged 4 months, also presented somewhat complicated symptoms, and died after 4½ months. The necropsy in this case revealed a double empyema, pyopericardium, bronchitis, and a pyarthrus of the elbow-joint. Before death, the pneumococcus had been found in the blood and in the pus from the abscess, and *post mortem* it was also demonstrated in the implicated organs. The author believes the lung to have been the primary seat of infection in both cases. After reviewing the various affections caused by the pneumococcus, both as complication of pneumonia and as independent affections, the author considers that at least three facts may be looked upon as certain: (1) That the pneumococcus has been found in the oral and nasal cavities in healthy subjects, and may infect neighboring tissues; (2) that pneumococci from an infected organ can be carried by means of the lymphatics to other organs; (3) that they may escape from one focus into the blood, and be carried by the circulation to any other place in the organism. The author also quotes a number of cases from the special literature, which appear to prove that the pneumococcus, more frequently than has been thought, passes from a pneumonic lung into the blood, not only in fatal cases, but in many others that recover.

PNEUMOCOCCI AND THEIR LOCALIZATION AND PNEUMOCOCCIC PERICARDITIS.—ZUBER (*Th. de Paris*, 1896, No. 3 5) says that while in man pneumococci are generally localized in the lung, they may invade the whole system and pass into the blood, and that pneumonia in its most intense form is a general infection—a septicæmia. Even in the localized form of the disease a few cocci may pass into the circulation, but do not multiply there, and to demonstrate their presence a considerable amount of blood must be submitted to examination by culture and inoculation.

Cocci thus entering the circulation multiply and form infectious foci at the spots where they are arrested, causing metastasis of the original disease (arthritis, meningitis, abscess, etc.). These secondary localizations probably depend on the pathological condition of the parts in which they are situated, though this is not always to be proved. Pneumococcic osteitis has been met with consecutive to a fracture or at the seat of an old osteomyelitis and pneumococcic suppuration of a joint containing uratic deposits, and these are not merely coincidences; in animals infected by pneumococci, secondary localization has been provoked at the seat of physical or chemical injury, and in man the use of certain drugs for hypodermic injection has had the same effect.—Oski (*Th. de Paris*, 1896, No. 358) points out that in 1886, Netter demonstrated the possibility of a pneumococcic pericarditis without declared pneumonia, but though such pericarditis may rarely be a primitive manifestation of a general infection, it is, as a rule, secondary to pneumonia by contagion through the pulmonary lymphatics. It occurs more often in adults and in males than in others, in pneumonia of the right lung than that of the left, and during grey hepatisation rather than in the other stages of the disease. It often passes unnoticed, being masked by the signs and general symptoms of the pneumonia. It is suggested by a sudden depression of the temperature curve with algidity and cyanosis of the extremities' or by a rise succeeding a more or less marked depression. The prognosis is more grave, especially in the purulent or hæmorrhagic form; paracentesis may give a chance of recovery.

TUBERCLE OF THE FEMALE GENITALS IN CHILDREN.—Maas (*Archiv f. Gynäk.*, 1896) has collected 8 cases, one in his own experience. In the first, the Fallopian tubes and uterus were diseased. Infection probably originated in the umbilicus, as a line of tuberculous granulations were detected running from it over the peritoneum. The second was an instance of tuberculous disease of the intestines. Infection of the ovaries had occured, the disease passing from the rectum. In the third, the genital disease was secondary to pulmonary phthisis. A fourth case was a true example of primary tubercle of the genitals. The fifth was identical in course and character with the second. The sixth was of special interest. A child, aged 13 months, had vulvitis and tuberculous disease of the genitals. The mother was phthiscal, and direct contamination must have taken place. In the seventh the father was tuberculous, and, as in the sixth, the disease began with vulvitis. The eight patient had tuberculous pneumonia after measles, and a vaginal affection, also clearly tuberculous. The parents were healthy. The primary seat of disease remained uncertain. The tubercle may have been carried from the lungs to the vulva by the lymphatics, or more likely the child had touched the vulva with fingers soiled with sputum.

VERY STRANGE.—"You say I was born in Leeds, papa. Where was mamma born?"

"In Liverpool."

"Isn't it strange that we three should have got to know each other?"

NOSE AND THROAT.

IN CHARGE OF

J. MURRAY McFARLANE, M.D.,

Laryngologist to St. Michael's Hospital. 32 Carlton Street.

THE INFLUENCE OF SEA AIR ON AFFECTIONS OF THE NOSE, THE THROAT, AND THE EARS.—The November-December number of the *Archives internationales de laryngologie, de rhinologie et d'otologie* publishes an article on this subject in which the writer, M. Lavrand, of Lille, gives the results of his experience in this direction.

Persons, he says, who suffer with chronic nasal affections, such as hypertrophy of the mucous membrane of the turbinals, acute and frequent attacks of coryza, ozæna, and suppuration of the sinuses, may be benefited by remaining at the seaside for a certain length of time. The mental rest, the open air, the sun, and the frequent exercise modify the progress of these diseases by their effects on the general health. General bathing is beneficial; but salt-water douches or sprays are of moderate value only in these affections, with the exception, however, of ozæna, in which affection this treatment has several times given good results. On the whole, says M. Lavrand, all nasal affections that are not acute may be favorably influenced by sea air. By very excitable persons and by those in whom the pituitary membrane is particularly sensitive and the exhilarating and exciting effects of sea air are not well borne.

With regard to throat diseases, hypertrophy of the tonsils frequently appears in lymphatic subjects, and such persons are benefited by the sea air, which exercises a favorable influence on the organism and increases its vitality, in this way causing the reduction of the tonsils. If the hypertrophy is of long standing, however, the local condition will not be benefited, although the general health may be favorably influenced.

Nasopharyngeal, pharyngeal, and laryngeal catarrhs, says the author, may be divided into three classes: 1. Those which are provoked and aggravated by sharp air. In such cases the sea air is contraindicated, unless the patient gradually becomes accustomed to it. 2. Catarrhal atony induced by defective vital energy of the mucous membranes. In this class of affections sea air certainly exercises an ameliorating influence. 3. Catarrhs resulting from vocal or general overtaxing. Of persons thus affected, those who are nervous, arthritic, or predisposed to congestion, should avoid the seaside; the others are marvellously benefited by the air, the sun, the bathing, and the exercise, provided the latter are taken gradually and in moderation. Acute affections of the throat are distinct contraindications.

With regard to diseases of the ears, says M. Lavrand, acute diseases are also a contraindication to this mode of treatment, and chronic affections of the ear are not usually influenced favorably by sea air; gener-

ally it aggravates the trouble. Diseases that are engendered or aggravated by a bad general condition, on which sea air exerts beneficial results may be excepted.

M. Lavrand's conclusions are that a residence at the seaside for a certain length of time may be beneficial in the chronic affections of the nose, the throat, and the ear. The following exceptions, however, may be made: 1. If there is constant or intermittent suppuration of the ears. 2. If there is sclerotic otitis with buzzing of the ears. 3. Diseases of the pharynx and of the larynx in persons subject to congestion, in excitable tuberculous persons, and in arthritics who are predisposed to congestion or to acute or subacute attacks of inflammation of mucous membranes.

THE NOSE AS A GERM-FILTER.—The experiments of St. Clair Thompson and R. T. Heirlett (*Medical Record*, June 6, 1896) emphasize the importance of having a healthy nose. Their researches show that, under very favorable conditions, the lowest number of organisms contained in the inhaled air of an hour was fifteen hundred; and that in a large city, the air that passes through the nose in the same period is charged with from twelve to fifteen thousand. Tyndall has shown that the last portion of an expiration is free from impurities. Other authorities have demonstrated that the interior of normal nasal cavities is perfectly aseptic. The vibrissæ, which line the vestibules of the nose, however, are usually well-laden with micro-organisms. This clearly proves that this portion of the respiratory tract acts as an excellent filter, and that a large number of bacteria meet destruction at this site. Furthermore, pathogenic organisms which have reached the interior of the nose are readily ejected. The following experiment substantiates the last remark: A pure culture of bacillus prodigiosus was placed upon the nasal septum, some distance from the vestibule. Cultures were made every few moments Continual falling off of the growth in the culture-medium was observed, until at the end of two hours no growth of the bacillus could be detected.

THE PROPHYLAXIS OF NASAL CATARRH.—The well-known author, Carl Seiler (*N. Y. Med. Journal*, July, 1896), states that the fundamental origin of this affection arises from the so-called rearing of children by over-feeding, over-clothing and over-care-taking. Fresh air, he remarks, is nature's best remedy, and should be administered with a lavish hand. Too much care in the handling of young ones should be avoided. Avoid the unwholesome desire to over-dress the body. Cleanliness, not only of the body, but of the nasal cavities, should be practised. It is an important part of an individual toilet, and prevents the putrefactive process, and thus avoids the possibility of systemic infection by the ingestion of the products of putrefaction in the susceptible system of a young child.

As early as possible a child should be taught to snuff up the nose a warm saline or alkaline solution, with or without the addition of antiseptics, either from the hollow of the hand or from a small cup or glass, three or four times morning and evening. In this manner the habit is

formed, and the routine cleansing becomes a regularity. Atomizers and douches should be avoided at this period in life. The solution employed must be non-irritating and at a suitable temperature, so as not to chill the mucous membrane and cause unpleasant symptoms. Cold applications, in the form of sponging the neck, chest and arms, are recommended.

THE RESULTS OF INJECTIONS OF ERYSIPELAS TOXINS UPON MALIGNANT GROWTHS.—The following conclusions were offered in a report before the New York Surgical Society by Drs. Stimson, Gerster and Curtis (*Annals of Surgery*, July, 1896):

1. That the danger to a patient from this treatment is great.
2. Moreover, that the alleged successes are so few and doubtful in character that the most that can be fairly alleged for the treatment by toxins is that it may offer a very slight chance of amelioration.
3. That valuable time has often been lost in operable cases by postponing operation for the sake of giving the method of treatment a trial.
4. Finally, and most important, that if the method is to be resorted to at all, it should be confined to the absolutely inoperable cases.

SIMPLE ACUTE LARANGITIS AND BRONCHITIS.—According to clinical observation (*N. Y. Med. Journal*, July 18, 1896), an acute inflammation of the respiratory tract is of free progression. Resolution may have taken place in the larynx and trachea, and yet the lower tissues may be in an acute stage. The important factors tending towards recovery are a free flow of mucus and serum from the mucous membrane, and the getting rid of the foreign element as soon as possible. Retained secretions irritate and ferment, thus reinfecting the parts. Remedies that will stimulate secretion are indicated. The bronchial mucus is the best sedative to an inflamed larynx, and a flow of this non-irritating secretion should be encouraged. For five years the writer has found apomorphine, in a freshly compounded acidulated mixture, to be the best of all relaxing expectorants. He gives it in one-thirtieth grain doses, at two or three hour intervals, and it rarely fails to do its work. Rest is also necessary in these cases. Sulphate of codein, in one-fifth grain doses, p. r. n., is also given. Carbonate of ammonium he found to be the most serviceable stimulating expectorant.

SOME OBSERVATIONS IN LARYNGEAL TUBERCULOSIS.—Among some of the more obscure points in the symptomatology of this affection, Vander Poel (*N. Y. Med. Journal*, July 18, 1896) mentions the simple weakness of the voice, without organic change in the larynx. This, he thinks, is due to the weakened tensors of the vocal cords. The latter appear shortened and shrivelled. The appearance of the parts resembles the picture of hysterical aphonia; except that, in the latter ailment, the abductors are usually affected and not the tensor muscles. The paralysis of the right vocal cord, which is at times seen in tubercular disease of the larynx and lungs, is supposed to be due to the right recurrent nerve being

imbedded in the hard, thickened pleural tissue about the apex of the right lung. (Edema naturally interferes with the usual movements of the crico-arytenoid articulation, and so may give rise to the symptom in question.

As a preliminary symptom to the development of a tubercular manifestation, the author has noticed "a slight thickening of the mucous membrane, associated with the presence of a white, milky, somewhat purulent, mucous fluid, which secretion contains no tubercle bacilli, but which he considers almost pathognomonic. It is chiefly found in the region of the aryteno-epiglottic folds, or may coat the interior of the larynx." He has seen this catarrhal state six weeks to two months before the usual symptoms developed. A case in point is mentioned.

A NEW POSITION FOR MAJOR NASAL OPERATIONS.—Carl Seiler describes a new position for major operations within the nasal cavities (*Maryland Medical Journal*). Where general anæsthesia is necessary, as in large fibroid tumors or rhinoliths, it is very often necessary to plug the posterior nares and perform tracheotomy, making the operation more tedious and complicated. To avoid this, he has for several years employed a method which he has found satisfactory in these cases. He places the patient on a table in a ventral recumbent position, with the head projecting over the table, and held in a horizontal position by a band around the forehead, which is held by an assistant or by a firm support attached to the table. While the relative topography of the parts are changed, still this does not render the operation more difficult than when the patient is in a dorsal or lateral position. During the operation, the blood flows downward from the mouth or nostril, without any risk of suffocating the patient. While operating he depends much upon the sense of touch; but where the light is necessary he lies upon his back on the floor and reflects the light in the usual manner; when in this position the relative topography of the parts are re-established.

THE ETIOLOGY AND TREATMENT OF POST-NASAL CATARRH.—W. Freundenthal, in the *Journal of the American Medical Association*, gives some useful points regarding the treatment and etiology of post-nasal catarrh.

The naso-pharynx is a part of the respiratory tract, as it is lined with columnar ciliated epethelium. Although Aschenbrandt has demonstrated in his experiments, that the greater portion of the warming and moistening of the inspired air is carried on in the nostrils, still these experiments were conducted in normal subjects. Freundenthal has made a number of experiments in pathological subjects, as well as normal, and has found that the naso-pharynx is a very important adjunct to the nostril in its respiratory functions. In a case in which the nostril of the patient had been extensively cauterized for four years, so that the nostrils were able to carry on only 25 per cent. of their function, yet this patient felt no inconvenience whatsoever, (?) showing that the naso-pharynx had con-

tributed very largely in preparing the inspired air in this case. He attributes much of the prevalent catarrhal troubles to defective methods in warming houses, the heat of which is almost always too dry. The common idea that we catch cold on account of defective dress, is erroneous; the true reason being that we do not live enough in the open air, and do not admit enough fresh air into our houses. Children who go barefoot are not as subject to colds as those who wear shoes. The underwear should only be worn to the extent that it is necessary, so as not to interfere with the cutaneous respiration.

SARCOMA PRESENTING IN THE NASAL FOSSA.—Four months after removal of what seemed to be a myxoma, the right nasal cavity was found to be occluded by a round-celled fibro-sarcoma, in a female twenty-six years old. Repeated curettage was carried out, but it became necessary to remove the body of the ethmoid bone by external operation. It is supposed that the polyp was the result of irritation due to the presence of the malignant tumor.—HARDING, *British Med. Journal*, Feb. 29, 1896.

DISEASES OF THE MOUTH, NOSE AND THROAT AS PATHOLOGICAL FACTORS IN GASTRITIS.—F. B. Turck, in the *Medical Fortnightly* has an article on "Disease of the Mouth, Nose and Throat as Pathological Factors in Chronic Glandular, Gastritis, with Bacteriological Studies of the Pharyngeal Vault."

Bacteriological studies have shown that upon the mucous membrane of the mouth, nose and pharynx groups of micro-organisms are found, which are also present in the stomach during gastritis. Under normal conditions the mucous membrane of the stomach does not favor colonization upon its walls, but during pathological processes micro-organisms may develop. The mouth, nose and throat, in diseased conditions, are incubators, ready to infect the stomach when diseased conditions permit the development of growing micro-organisms upon its walls; these bacteria being carried into the stomach during the act of swallowing. Turck, in his clinical and experimental work, has demonstrated groups of micro-organisms obtained from the gums and cavities of the teeth, similar to those found in the material from the walls of the stomach, obtained by the gyromele (revolving round). He reports several cases, in which he shows that many of the patholigical micro-organisms present the identical biological and physical forms in cases of gastritis as found in the mouth and post-nasal cavities of the same patient.

ASTHMA.—A case of asthma cured by the inhalation of the vapor of peroxide of hydrogen is reported by Dr. W. B. Ketchum (*The Texas Health Journal*). The patient had been subject to cases of asthma for ten years, until she was directed to inhale the vapor from an inhaler which contained equal parts of glycerine and peroxide of hydrogen After she had used this treatment for one month, the patient reported herself as "cured." (?)

PAEDIATRICS.

IN CHARGE OF

J. T. FOTHERINGHAM, B.A., M.B., C.M.,

Physician to Out-door Department Toronto General Hospital; Physician to Out-door Department Hospital for Sick Children.

THE MANAGEMENT OF INFANT FEEDING.

BY LOUIS FISCHER, M.D., NEW YORK.

All pediatrists will agree that nothing more difficult confronts them in their daily practice than to decide exactly what to feed a baby, and in this paper I shall discuss the subject under two divisions: First, infant feeding in health; second, infant feeding in disease. The term "infancy" is here used to include all times from birth to the end of the second year, or until the completion of the eruption of the milk teeth. No one will dispute the fact that the feeding of a sick baby is an entirely different matter from the feeding of one in good health. I shall therefore first consider feeding in health. An infant may be fed in two ways: First, from the human breast; second, from a bottle, otherwise known as hand-feeding or artificial feeding.

NURSING OF THE NEWLY BORN.—An infant should be put to the breast as soon after birth as the mother's condition warrants, which is usually between six and twelve hours. The first milk contains colostrum, which consists of laxative salts, and clears the child's intestinal tracts. It does contain some nourishment, and the usual addition of sugar water to the dietary, or milk and water where colostrum is given, is deleterious.

The proper secretion of milk in a normal breast rarely takes place before the third day. An infant should be put to the breast every two hours. By this stimulation it aids the formation of milk and also the contraction of the uterus. Should there be a deficiency of milk supply, however, then cow's milk might be advantageously given, diluted as follows:

One-third cow's milk,
Two-thirds water,
One piece of loaf sugar and some salt.

The minutest instruction should always be given as to the interval between each nursing, as to the quantity that a child should take, for some children with a good appetite require both breasts for one meal, as to regularity in feeding and about feeding at night.

A healthy child during the first two months requires the breast every two hours, from 5 a.m. to 11 p.m.. The child should not sleep with its mother, but be trained to sleep in a crib for at least six hours, so as to insure some rest at night for the mother.

This is a vital point in my opinion, as, from the prolonged lactation, the quality and quantity of the mother's milk must never be lost sight of, and unless the mother has her proper rest the milk will be deficient in quality.

I wish to emphasize the fact that we must individualize our method of feeding, and remember that while some children merely require food once in three hours, others will require feeding every hour and a half.

The strong, newly born infant has a stomach capacity of about one and one-half ounces. It has been found that an excessive feeding over this amount may cause vomiting. Slow nursing extending over fifteen minutes is preferable to quick nursing. In this way a child would probably receive about twelve ounces of milk in each twenty-four hours during the first week. The infant could be fed once every two hours, giving us ten feedings in twenty-four hours and allow four hours for rest.

As the child gets older and stronger the stomach capacity increases, and the interval of two hours between each feeding can be prolonged so that one feeding every two and one-half hours or eight feedings in twenty-four hours would be sufficient, never omitting the interval of rest at night for the recuperation of the mother. Between the third and fourth month the child need be nursed only every three hours, and experience has shown that an infant takes about three to six ounces at each feeding, or between twenty-four and thirty-six ounces in twenty-four hours. This will amount to six or seven feedings in twenty-four hours.

WET NURSES.—If the infant's own mother cannot nurse her child, then we can and should try to secure a wet nurse.

The wet nurse must be carefully examined as well as her child for the presence of syphilis. With your permission, I beg to refer to a short paper on this subject, published in the *American Medico-Sergical Bulletin* in January, 1894:

1.—Never have a baby fed by the milk of its mother if the latter suffer with general debility or tuberculosis. Extremely nervous mothers should not nurse their babies.

Syphilitic babies (hereditary) can only be nursed by their own mothers, owing to the risk of infecting the wet nurse. Very frequently the life of the child is dependent on its being nursed by its mother in syphilis.

(*a*) The return of menstruation is no contra-indication to the continuation of nursing.

(*b*) The moment a woman is pregnant nursing should be stopped.

(*c*) Children should not be nursed at night unless for some special reason.

(*d*) Weaning should take place gradually, and only in the eighth to the tenth month.

(*e*) It is understood that weaning should not be commenced during the hot summer weather.

The main factor in determining the time of weaning is "weighing." Children must be weaned, when, although in perfect good health, they remain below normal weight.

(*f*) Prolonged nursing will induce rhachitis.

2.—If, for various reasons, a child cannot be nursed by its own mother, we then resort to the wet-nurse.

(*a*) She must be carefully examined as to her physical condition; tuberculosis, all chronic disorders and diseases would prevent proper nursing. Hereditary nervous troubles, epilepsy or syphilis would exclude nursing.

Milk requires examination to determine amount of fat, the condition of the emulsion, etc.

(*b*) It is a good point to procure a wet-nurse suckling a child about as old as the one we wish her to nurse, although it is quite common to find nurses who have older children than the one they wish to nurse and to find the latter doing well.

(*c*) The proof of the usefulness of the wet-nurse is the condition of the baby after some time. If the child thrives it will increase in weight. Hence scales must be frequently used.

WEANING.—When a child reaches the age of six months. it is well to think of weaning. I have very successfully tried gradual or partial weaning. This consists in giving at the age of six months one hand-feeding of six to eight ounces during the twenty-four hours. It is to consist of cow's milk three ounces, and, if the bowels are regular, three ounces of barley gruel, made with water, and about ten-fifteenths grains of ordinary table salt and one-half lump of cane sugar.

Each month following the sixth month we can withdraw one breast-feeding and in its place substitute an artificial feeding, so that by the ninth month the infant is weaned. Unless it be mid-summer, or on account of some special condition, complete weaning should take place about the tenth month.

In addition to giving a bottle in the method of partial or gradual weaning, a small piece of crust of bread or zwieback can be added to the dietary, besides a little thin beef soup or expressed meat juice.

If an infant while nursing does not increase in weight between five and six ounces weekly, then it is better to advise a careful examination of the breast milk. For this purpose numerous instruments have been devised, as Marchand's lactobutyrometer, but probably the simpler method of examination for cream and fat devised by Holt is best. This little instrument, which I show you, is known as the creamometer, and shows the relative percentage of cream and fat in the milk. A drop of milk placed under the microscope will easily tell the story.

HAND OR ARTIFICIAL FEEDING.—If we cannot give our infant breast or human milk, then we must resort to artificial feeding. Our choice will lie between giving peptonized, humanized, pasteurized, sterilized, modified or boiled milk, or possibly some patent food.

The method of peptonizing milk with pancreatin and soda is too familiar to mention, and, as it is only used in sick babies, I will only allude to it.

Humanized Milk.—A pint of milk is set aside until the cream rises, and this cream is skimmed off and kept. To the milk remaining is added enough rennet to curdle it. The whey is strained off the curd and

added with the previously separated cream to a pint of fresh cow's milk. This is known as humanized milk. In some infants it will be well borne during the first three months, and to this can be added farinaceous liquid for dilution if required.

Pasteurized Milk.—This is really partially sterilized milk, and consists of sterilization at a temperature of 167° F. instead of 212° F. This sterilization to be continued for from twenty minutes to half an hour. Pasteurized milk should only be used during the twenty-four hours following this process. A good apparatus for this purpose is the one known as Dr. Freeman's Pasteurizing apparatus

Sterilization.—I desire to be put on record as stating that with our present knowledge nothing better than sterilized milk has yet been devised. On November, 12, 1891, I demonstrated an improved Soxhlet sterilizer before the Section of Paediatrics of the New York Academy of Medicine. The sterilizers which are in actual use in this country are easily tampered with, so that there is no guarantee of the milk remaining sterile, wheras in the Soxhlet apparatus when the stopper is removed the bottle of milk mnst be used at once. The difference is very apparent if you will compare the two bottles.

FLUIDS FOR DILUTION OF MILK IN HAND-FEEDING.—*Barley Water.*—Take a teaspoonful of pearl barley, grind it in a coffee grinder, or pound it in an ordinary mortar, add one pint of cold water, and allow it to simmer slowly for about an hour. Strain and add enough water to make one pint.

Oatmeal Water.—Take a teaspoonful of ordinary coarse oatmeal, and add one pint of water. Allow it to simmer slowly for one hour and strain. Add enough water to make one pint. The same directions apply to making a household mixture of farina water, rice water, or sago water, using the same proportions as above.

Arrowroot.—Add two teaspoonfuls of arrowroot to one pint of water; allow it to simmer for half an hour, stirring it constantly.

Pasteur found that subjecting milk to a temperature of 160° to 170° F. for fifteen or twenty minutes will destroy all germs of tuberculosis, scarlet fever, diphtheria and pneumonia. As this is all that is necessary to make milk sterile, it answers all practical purposes. Heat above 165° F. destroys the starch fermenting ingredient of milk, called galactosine, which is an important loss to the infant.

Lact albumen, which is allied to serum albumen, is coagulated by heat. This produces the unpleasant smell which characterizes boiled milk. Milk sugar is destroyed or changed. Cream can be seen floating as fat globules upon the surface of sterilized milk, and it is necessary that the digestive function should change it to an emulsion before it can be absorbed. Caseine is also changed by sterilization. Baginsky states that it requires more rennet and a higher temperature to effect the digestion of the caseine of sterilized than that of new milk.

Since sterilization produces the effect just noticed, Pasteurization, which is sufficient to destroy pathogenic bacteria, will answer our purpose better. Pasteurized milk however cannot be used after twenty-four hours. What asepsis in surgery is to antisepsis, so pure, natural, sterile

milk is to artificially sterilized milk. Should we ever be able to receive milk from our dairies free from micro-organisms, then we can easily discard artificial methods of sterilization and Pasteurization.—*Pediatrics, July 15th, '96.*

We print the following as bearing on the case referred to in last issue :—

MEDICAL ITEMS.

THE DEATH OF DR. LANGERHAUS' SON EXPLAINED.—A full and satisfactory explanation of the sudden and tragic death of the little son of Dr. Langerhaus immediately following an injection of antitoxin serum has been reached through the subsequent investigation. In the first place, the analysis of the serum proved it to be reliable, and no irregularity in the method of its administration could be discovered. It was found, however, that the child had just completed an unusually heavy meal, and as the necropsy showed his larynx and trachea well filled with a material identical with that found in his stomach the accepted inference is that while faint from the shock of the injection he was unable to eject the vomited matter from his throat, and instead drew it into the air passages, with fatal effect. It may be concluded, then, that what appeared to be quite damaging evidence against the serum is really the result of a very simple accident.—*Medical News.*

MAY 5 1897

FOR BRONCHO-PNEUMONIA IN CHILDREN.—*Rev. Internat.* :—

℞ Sodii benzoatis.....gr. viii
Ammonii acetatis.....gr. xxiv
Spiritus Vini Cognac.....f ℥ ij
Misturæ acaciæ
Syrupi simplicis.....aa f ℥ jss
S. From one-half to one fluid dram every two hours.

NEURALGIA.—A local application much used in the clinic of Dr. S. Solis Cohen, *Phila. Polyclin.* for the relief of vague pains localized at different points upon the surface of the body, as well as in the treatment of intercostal neuralgia and the pleuritic stitches of chronic pulmonary tuberculosis, is the following:

℞ Menthol,
Chloral Hydrate, } .....equal parts.
Camphor,

M. Sig.: Apply to painful part with camel's hair brush once daily, or as symptoms may indicate.

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The Largest Circulation of any Medical Journal in the Dominion.

Editorial.

Truly this is a day of disillusionments—a time when shattered idols are more common than those in the odour of sanctity. Homer seems to nod more frequently than ever. The last issue of the *Practitioner* contained an appreciative, not to say flattering, review of a so-called Metaphysical Magazine, palpably not written by the genial and well-beloved physician who is editor-in-chief, and certainly inserted without his knowledge. The Magazine in question is the organ of the most advanced faddists of Theosophy and Christian Science, and the very number received with such favor by the *Practitioner* contains, among other choice pieces of verbose obfuscation, an article proving that the "respiration" (meaning the breath) "during a time when an evil emotion is dominant, contains volatile poisons which are expelled through the breath and are characteristic of these emotions." The sage investigator goes on to say that by applying chemical agents to the breath he can produce a precipitate and so detect these poisons, and that, "in the case of grief the color will be pinkish."

Ever since we read that review in the *Practitioner*, our breath has been of a beautiful pale pink at the thought of the game some one has played on the Editor, and we quite expect him to display a bright scarlet flambeau for a week after discovering the trick by which his apparent endorsation has been secured for the maunderings of a lot of people gone queer over Esoteric Buddhism.

DIET IN TYPHOID.

The advent of the season for "autumnal fever" makes timely some reminders as to details in the feeding of those who cannot take milk well. It is needless to say once more that nursing and feeding are the agents of cure, and one may add that intelligent supervision will make more demands on the physician here than in almost any other disease. It is generally admitted, that the routine habit of trusting blindly to

milk, as came to be the rule a few years ago, is to be deprecated. It must not be forgotten, however, that in cases that digest milk well, are not constipated or rendered tympanitic and flatulent by it, and do not pass undigested flakes and curds of casein, there is no other article of diet to be compared with it. It contains the necessary food elements, is an excellent diuretic, (and one often forgets the urgent need of assistance to the laboring emunctories in typhoid when the waste matters are heaped up in excess at points of exit temporarily reduced in capacity.) It furnishes the fluid necessary, and is more easily digested in a larger number of cases than any other one food. Incidentally one may mention as a disadvantage the increased care of the mouth in typhoid which its use necessitates. No other food remains in the mouth to provide so suitable a nidus for bacterial growth. and it is quite probable that in some cases milk is sufficiently polluted in the act of swallowing to ensure its fermentation in the stomach and intestines, with the resulting vomiting, tympanites and intestinal stagnation that we all recognize as so evil. So that the milk-fed patient is especially in need of a mouth-wash; listerine and boracic acid, with or without black wash or glycerine. after every ingestion of milk, with the daily use of the tongue scraper if the tongue is very foul; a strip of ordinary whalebone for dress waists, bent into an oval, will do well.

Evidences of mal-assimilation of milk apart from those of dyspepsia already mentioned, are rapid emaciation, constipation, clay colored or white stools, tympanites, and even the scurvy-like bleeding gums and swollen tongue. In cases such as these, and in those to whom milk through mere distastefulness cannot be given, it may not be necessary to at once or entirely give it up. It should be given hot, or sterilized, or peptonized, or flavored with strong tea or coffee or cocoa in limited quantity, as junket, as whey, koumiss or buttermilk. An excellent form sometimes is the egg-nog, or milk-punch, or milk-jelly. The latter is made with rich milk, peptonized if necessary, an equal quantity of hot gelatine, flavored with sherry or rum, essence of lemon or orange, a pinch of salt and sugar to taste, eaten cold. The hot egg-nog is another excellent device, an egg beaten smooth poured into a half-pint of scalding (not boiling) milk, predigested if necessary, and either sweetened and flavored with an essence, making really a sort of custard, or salted and peppered or flavored with celery salt. Tomato soup, strained, consisting mainly of milk, is often welcomed as a change.

Should none of these devices succeed, the milk need not be entirely given up, or if so, may sometimes be resumed advantageously in a day or two.

Substitutes for it are mainly of two kinds: *a.* Animal broths of one sort or another, including gelatine, egg albumen, and the meat extracts of commerce, and *b.* farinaceous gruels.

Discussing the former *seriatim*, it may be said: 1. That good authorities look on proteid matters as risky from the tendency to *febris carnis*, "meat fever," from absorption of ptomaines produced in the intestine from the decomposing animal matter. Bacteriology certainly claims to prove that bacilli fed on beef juice produce more poisonous ptomaines

than those fed on milk, and physiological chemists claim that starches do not make ptomaines. This class of foods, too, is more apt to cause diarrhœa, especially beef and mutton broths. Veal and chicken broths seem to tend less in this direction.

2. That gelatine and egg-albumin are looked on as "tissue-repairers." The gelatine may be given with white of egg as "snow pudding," or as a jelly flavored with coffee, sherry, or rum; or with milk as already mentioned. The egg-lemonade or albumin-water, made by pouring into a weak lemonade or "orangeade" the unbeaten white of an egg, is more than a mere drink. Egg-albumin may also be given as sherry-flip.

3. That the commercial meat extracts if given are not to be considered valuable as food.

As to *b*.—Farinaceous gruels are occasionally of advantage but mainly as admixtures with milk, serving to prevent precipitation of large curds. The broad objection to them is that they are apt to excite tympany, as they are digested normally in the intestine, which is usually in these cases less fit for work than the stomach. The secret of success with them lies mainly in thorough cooking, and thorough straining, so that only the predigested diastatic portions may reach the patient. It has long been taught that prolonged cooking changes starch, partially at least, to diastase. Convenient forms are gruels of arrowroot, sago, tapioca, oatmeal, rice, barley (barley water.) Lately banana flour has been highly recommended by Gilman Thompson, of New Nork. The prepared foods, such as nourishing meal, Mellin's, Ridge's, Horlick's and Nestles, are also useful. They will usually do better, and be better liked, if they are not too sweet, and are often more acceptable with a little lemon juice or cream.

A word as to quantity. The daily amount should be carefully noted, apart from the drinks taken not as food but to quench thirst. Any untrained nurse can note this if started at it by the physician. The amount should never exceed the patient's powers of assimilation. It is painful to think of the amount of "stuffing" and consequent damage that occurs in the management of some cases. From one to three quarts of milk, or its equivalent, should suffice as food, and from two to three and a half quarts of water (including that given in the fluid food) are usually enough.

J. T. F.

THE RELATIONSHIP OF PROGNOSIS OF GENERAL HEALTH IN TYPHOID FEVER.

We are again entering upon the season of the year characterized by a great increase in the number of cases of Typhoid Fever—a disease to the study of which we return with untiring interest. Its wide distribution, occurring in city and hamlet throughout the length and breadth of the land; its victims, chosen from all grades of society; its assaults, alike on the strong and the weak, make its consideration a matter of universal concern. In no other disease do we have so many lamentable and unlooked for fatalities. In no disease is the prognosis so uncertain. That the gen-

eral health of the patient forms a poor guide in estimating his chances for recovery is only too well known, for it is a matter of frequent observation and comment, not only with the profession, but among the laity, that a strong, robust, healthy individual will succumb to the disease, while one of miserable physique and poor vitality will recover. So frequently is this the case, that some solution more satisfactory than accidental circumstances must be sought to explain away the apparent paradox.

We have happily passed the day in medical science when such occurrences were attributed to special visitations of Providence not to be too closely inquired into, at the which the fatalist would shrug his shoulders and sanctimoniously ascribe to divine interposition what was really the work of microbes.

That a person of strong and rugged constitution would, other things being equal, stand the best chance in resisting or throwing off a disease seems, at first sight, a fact so apparent as to be axiomatic.

In so long and exhausting struggle as Typhoid Fever is, one would naturally expect the organs and tissues of a robust individual particularly qualified to withstand the deleterious effects of the toxines and to maintain the body functions.

Moreover, scientifically considered, the individual cells would possess greater resisting power and should be better able to react in the formation of protective proteids in the blood serum, or in the elaboration of antitoxins to neutralize the poisons absorbed into the system; or according to the theory of Metschinkoff, greater numbers of healthy phagocytes should be attracted to the seat of attack to repel the invasion and feast on the invaders.

Why then is the prognosis not more favorable in this class of patients? The explanation that in strong individuals there is a greater quantity of the material necessary for the maintenance of the bacteria present in the system is no longer tenable since the theory of exhaustion is exploded.

Apart from the fact that particular cases might be explained by circumstances in connection therewith, there are some considerations which appear generally applicable in answering the question.

A strong individual does not so soon seek treatment, but goes about as long as possible trying to fight off the disease. Fagge, insisting on the necessity of complete rest from the very beginning of the fever, says, "that men are apt to do themselves irreparable injury by struggling on day after day," and quotes Sir Wm. Jenner, who declared that some of the worst cases of enteric fever which he had ever seen appeared to owe their gravity to the circumstance that the patient had travelled after having begun to feel ill, in order to reach home. There must be few clinicians who have not had abundant opportunities for observing cases where the prognosis was rendered serious by neglect of the patient to go to bed as soon as taken ill.

Again, being undisciplined by sickness, robust persons are usually much more difficult to manage, tossing about and using muscular exertion that not only taxes their strength, but tends to produce hæmorrhage or perforation—the accidental causes of death in Typhoid.

But probably the most important factor—and one too much lost sight of in making a prognosis—is, *that absorption, like all other physiological processes, is much more active in a healthy individual,* and thus a greater quantity of the toxines generated by the bacteria will be taken into the system to produce the symptoms of the disease. So also the tendency to general bacterial infections by organisms other than the B. Typhosus—mixed infections as by streptococci or staphylococci—is greater where absorption is more active. It would thus appear that the degree of toxæmia is, to a certain extent, governed by, and proportioned to, the strength of the individual.

And so, apparently, in our very strength there is a source of weakness—a consideration in which there should be at least, a grain of comfort to those who have not been endowed "by dissembling nature" with a strong physique. Were the dose of poison constant, no doubt the robust individual would stand by far the best chance for recovery, but here, as elsewhere, we have a beautiful example of the "law of compensation."

H. B. A.

"TURN THE RASCALS OUT."

It is to be regretted that any firm of manufacturing chemists whose methods and dealings with the drug trade have always been fair and considerate should find it necessary to protect themselves against the unprincipled substituter, as explained elsewhere in this issne. It is hard to believe the testimony which Fairchild Bros. & Foster have gathered against retail druggists, who have substituted other preparations when Fairchild's was distinctly ordered by physicians. We fail to comprehend what a druggist is thinking of when he permits such practices behind his prescription counter. Where is the profession of pharmacy drifting to if it has gotten to that point that a physician cannot depend upon a druggist filling his prescriptions with what is ordered? We should discredit these reports if they came from a less responsible source. Such practice if continued will work untold injury to the credit and standing of the entire pharmaceutical profession. Physicians are constantly claiming that one of the principal reasons why they handle their own medicines is that they are then sure of what they are administering. Any such wholesale accusation against the integrity of druggists is as unjust as it is untrue. There are thousands of conscientious, upright, honorable pharmacists, who would no more think of substituting in a prescription than they would of trying to pass a counterfeit bill. It is unfortunate that reflection must be cast upon these honest druggists by the acts of their unscrupulous brothers, but all of this hue and cry on the part of manufacturers about substituting cannot be ignored. Where there is so much smoke there must be some fire. Fairchild Bros. & Foster, by their action, place the charge where it belongs and this cannot fail to benefit honest dealers.

Every honest druggist owes it to himself and his profession to speak plainly on this subject. He should adopt the most strict rules for his own establishment; improve every opportunity to condemn the practice of substituting, and see that resolutions to this effect are passed by his local, State and national associations. Each druggist should make it a point to give his physicians and his customers to understand that when a prescription comes in to his establishment, it is filled with exactly what it calls for. There can be no middle ground, no compromise, no question on this point. Physicians who prescribe them and the manufacturers who make the goods must have no good cause for such complaints. The honor of the drug trade demands that this stigma be removed. It is not a question of dollars and cents alone, but professional honor is at stake, and we know that every honest pharmacist will join with us in the statement that the druggist who substitutes in his prescriptions is a disgrace to his profession.

PERSONAL.—Dr. Ryerson recently passed the "efficiency examination" required of Volunteer Medical Officers in England before a board appointed by the War Office. He has been appointed the representative in Canada of the British Red Cross Society. He returned home early last month and resumed his practice.

PERSONAL—We notice with great regret the death of a daughter of Dr. Burt, of Paris, Ont., aged only 10 years. The accidental upsetting of a lamp as she was playing in her own home, burned her so seriously that she died soon after. Her father was himself seriously burned about the hands in attempting to extinguish the flames. His many acquaintances will extend him most hearty sympathy.

NEW OPERATION FOR REMOVAL OF ENLARGED CERVICAL GLANDS.—Dr. Dollinger in *Centralbl. f. Chir.* describes an operation for the subcutaneous extirpation of tuberculous lymph glands in the neck and submaxillary region. The posterior half of the scalp having been shaved, and the whole of the scalp and the skin of the affected side of the neck carefully disinfected, an incision is made commencing behind the external ear, and carried in a curved line with the convexity backward and downward, toward the middle line of the neck behind. The skin and superficial fascia are divided, and the anterior and lower flap is undermined by finger and elevator until the enlarged glands are reached; these, if they have not broken down or contracted firm adhesions with surrounding soft parts, may now be readily detached by the elevator and drawn through the wound. The skin forming the lower flap is so yielding, especially in women and children, that it is possible by this operation, the author asserts, to reach glands situated near the chin, and even those in the supra-clavicular region. The wound, when made under strict antiseptic precautions, heals quickly, and the scar is hidden by the new growth of hair.

THE TREATMENT OF GOUT AND OF URIC GRAVEL.—X. Delmis, M.D., in *Gazette des Hopitaux*, recommends piperazine for these conditions. This substance is a crystalline organic base, soluble in water. The urate of piperazine is several times more soluble in water than the urate of lithia. Piperazine dissolves uric acid and uratic concretions in the proportion of half its volume. A number of physicians have proved that the first doses of piperazine causes an abundant expulsion of gravel and small stones, at the same time that a relief of the pain is manifested. In acute gout, piperazine causes a rapid amelioration of the pain and a progressive diminution of the swelling and redness. In chronic gout it appears to have an elective action upon tophi and upon the articular stiffness. The author has seen voluminous tophi disappear, and deformed limbs assume an almost normal aspect, thanks to the persistent usage of the remedy which is possible by its harmless action upon the organism.

In the scanty and tenacious secretion of bronchitis, Benedict (*Am. Therapist*) prescribes:

℞ Pilocapin Hydrochloratis ..... gr. i
Sanguinarin. Nitratis ..... gr. i
Syr. Tolutani et Aquæ, q. s. ad ..... ʒ iii
Sig.: Teaspoonful four times a day.

DIACHYLON PLASTER IN ATONIC WOUNDS AND ULCERS.—Balduzzi, in *La Sem. Med.*, in atonic wounds or ulcers, either of spontaneous or operative origin, advises compression by means of strips of diachylon plaster. It has the advantage of being easily carried out, and is especially adapted to country practice. It is also of service in ulcers of the leg. In fact, in all atonic wounds of whatever origin, it exercises a beneficial action. The wound or ulcer should first be rendered aseptic, and this repeated at each time that the dressing is renewed.

GONORRHŒA IN THE FEMALE.—This complaint though usually not so troublesome as in the male, sometimes gives continuous worry for months. A very sensible plan of treatment is given by Dr. H. C. Bloom, in the *Philadelphia Polyclinic*. It entails a little trouble, but the physician will be amply repaid for this by the results. He advises immediate washings of the vagina and contiguous parts with solution of hydrogen dioxide, which seems to be the one agent that searches every fold and crevice, cleansing and putting them in condition for the next step, which consists in the thorough application of silver nitrate in solution (sixty grains to the ounce) over the entire surface. This is at once followed by the careful packing of the vagina with powdered boric acid, and the placing of a small soft wool tampon. The patient is requested to return in twenty-four hours, when the tampon and packing are carefully taken out, with probably a cast or exfoliation of the destroyed or infected tissue —if not as a whole, then in large flakes and sufficiently deep to destroy the gonococcus in the papillary layer of the mucosa. This practically cures the gonorrhœa. A simple wound remains, and the next step is to wash this raw surface with a solution of mercuric chloride, 1:4000, follow-

ing this by loosely packing the vagina with moist iodoform gauze, which is allowed to remain seventy-two hours. Upon its removal the surface will present a clean, healed appearance. The rapid cure almost does away with the probability of future pelvic involvement.

HAY FEVER.—A prescription much lauded for this affection consists of —*Am Med. Rev.*

Eucalyptol ..... } 1 oz. each
Glycerine ..... }
Tinct. opium ..... 2 drachms
Aqua destil ..... to make 6 ozs.

S.—Use with atomizer three times a day.

AS A DEODORISER IN UTERINE CANCER.—

℞—Acid salicylici ..... gr. vj.
Sod. salicylat ..... ℥ iii.
Tinct. eucalypt ..... ℥ vi.
Aq. dest ..... q. s. ad. ℨ vj.

M. Sig.—Two or three tablespoonfuls to a pint of water as an injection, frequently repeated.—*London Practitioner.*

FORMULA FOR ACUTE RHEUMATISM IN ADULTS:—

℞—Sodium salicylate ..... ℥ iss.
Potassium acetate ..... ℥ i.
Tinct. nux vom .....
Tinct. digitalis, aa ..... ℥ iv.
Aq. menth, pip ..... ℨ ss.
Tinct. cinchona comp ..... q. s. ad ℨ iv.

M. Sig.—ℨ j every three hours.—*Phil. Polyclinic.*

VINEGAR AN ANTIDOTE TO CARBOLIC ACID.—Vinegar is said to neutralize the action of carbolic acid. Applied to the skin or mucous membrane burnt by carbolic it will cause the rapid disappearance of the characteristic whiteness as well as the anesthesia produced by the carbolic. It also prevents the formation of the slough. It also neutralizes the effect of carbolic in the stomach; therefore the first thing to do when carbolic has been swallowed is to make the patient drink vinegar mixed with equal parts of water and then wash the stomach.

THREE WARNINGS OF INTEREST TO OBSTETRICIANS.—K. Milton Mahlott, M.D., (*N.Y. Medical Journal*) says: "There are three warnings which obstetricians should have constantly in mind, which are almost uniformly neglected.

First.—Warn a woman not to neglect any kind of hemorrhage during pregnancy.

Second.—Warn a woman during labor that she must keep her hands away from her vulva and vagina so long as she is confined to bed.

Third.—Warn a nursing woman never to fall asleep with the infant at her breast."

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OPERATION FOR VOLVULUS OF VERMIFORM APPENDIX.

Death from Septicaemia Without Peritonitis.

BY F. L. VAUX, M.D., RESIDENT ASSISTANT MT. SINAI HOSP., N.Y.*

E. S. æt. 24, muscular and well developed, apparently in the best of health, was attacked August 2nd with what appeared to be gastro-enteritis. He had had colicky pains, vomiting, etc., but being at a summer resort it was thought to be due to change of air and diet, or from excessive bathing. This condition continued for two days, during which there were remissions of temperature. On the night of August 4th he was seized with an intense pain in the right iliac region, where he had previously experienced it, though to a less degree. His medical attendant was at once summoned from New York by telegram, but the locality made it impossible for him to see the patient before the next morning. At that time his condition was as follows: temp. 103.4, pulse 100 and good, general condition excellent; his bowels had been moved by castor oil. On examination there was found a slight tumor well towards the ilium, and at the outermost part of the peritoneal cavity. Over this swelling tenderness was most marked. The man was at once brought to New York, and removed to Mt. Sinai Hosp., where he entered Dr. Lilienthal's service. His condition after entering the hospital was not such as to call for immediate operation, but a few hours later a chill, accompanied by a rise of temp. to 104° F., with a greatly increased pulse rate, decided his surgeon to operate. On opening the abdomen over the seat of greatest tenderness, and after walling off the healthy peritoneal cavity with gauze, the appendix was found pointing upwards and backwards in a cavity of which the caecum formed the inner wall, and the parietal peritoneum covering the Iliacus muscle the outer wall. The appendix was enormously swollen, and in a condition of moist gangrene, whilst the meso-appendix was twisted tightly around it at the point indicated in the ac-

* Reported by courtesy of Dr. Howard Lilienthal, acting attending surgeon.

companying photograph by spiral lines. The only firm adhesion was at the tip of the organ. After ligation and removal in the usual manner, an iodoform gauze drain was left in, packing the entire cavity; the wound was then sutured in part and dressings applied.

The pathology of the case seems to be as follows: About one year ago patient had all the symptoms of a catarrhal appendicitis, which was treated medically, and soon disappeared. It seems probable that at that time the appendix became adherent by its tip in a false position, undergoing an axial twist, the mesentery became wound around it, constricting the lumen. This condition did not cause any trouble until the present summer, when, as a result of a clam bake, followed by a dance, together with excessive surf bathing, an attack of gastro-enteritis was developed, with an accompanying appendicitis. This time the lumen is much smaller, the secretions cannot escape because of the previously twisted mesentery, and œdema, followed by moist gangrene results, the venous return being totally prevented. In the short time which elapsed before operation, the septic elements were absorbed in large quantities into the system, and although the appendix was removed, and without the escape of any of its contents into the peritoneal cavity, yet death resulted from general septicaemia.

After the operation $\frac{1}{8}$ gr. morph. was given, and repeated in two hours. The pulse was now 100, resp. 16, temp. 103.8. From now till the death of the patient all three commenced to rise gradually but steadily.

Aug. 5.—Forced nourishment, which was retained fairly well, urine clear, ac. and with a trace of alb. Thirty-two ounces passed in 24 hours. Temp. rose to 106° F. and the wound was opened; found to be doing well, and repacked with iodoform gauze.

Aug. 6.—Small doses of calomel, followed by an ox-gall enema, produced the expulsion of a large amount of gas, which temporarily relieved the patient. Urinalysis showed increased alb., bile, and granular casts. At 4 p.m. the temp. rose again to 106, and it was decided to try venesection, previous to which a saline infusion was given, partly to help the kidneys and also with the hope of somewhat diluting the absorbed poison.

The venesection (about 13 oz.) was very successful for the time, the patient breathing with greater ease and the pulse coming up well. These effects, unfortunately, were transitory.

Aug. 7.—Urinary suppression had been gradually coming on, and now became almost complete, only a few drachms being passed in 24 hours. Diuretics were of no avail, and a hot mustard bath, while inducing diaphoresis, had little effect in relieving the kidneys. Temp. rose to 107, pulse 158, and at midnight patient died, having been unconscious for some hours

Post-mortem examination showed the abdominal cavity to be clean and dry, there not being even a suspicion of peritonitis. A previous diagnosis of endocarditis and pericarditis was verified. A wedge-shaped infarct was present in the liver. Contrary to what might have been reasonably expected, there was no hyperæmia of the kidneys.

Certain conclusions will naturally present themselves to those interested in abdominal surgery.

Peritonitis is not the only thing to be feared; greater danger is general sepsis commencing before operation.

The necessity for operation in catarrhal appendicitis. Not only is the risk much less in primary cases, but the danger of a second or third recurrence when unable to secure immediate surgical attendance is great, as the very circumstances which contribute to the enjoyment of camping out, etc., are those most likely to lead to recurrent attacks.

The result of venesection combined with saline infusions warrants its employment in septicæmia. The value of this treatment will be in direct ratio to the early employment of it.

SYMPHYSEOTOMY.*

BY ALEX. FORIN, M.D., DULUTH, MINN.

GENTLEMEN—With our greatly improved technique in surgery we are able to perform operations with comparative impunity, which a few years ago were looked upon as exceedingly dangerous, while the somewhat recent step from antisepsis to asepsis has proved itself the most important factor in producing the glowing results of the modern surgeon. I do not mean that we have no use for antiseptics, for without them we could not pave the way for asepsis; without them we should find ourselves unable to get the external coverings through which we have to pass, into proper condition, nor could we submit our hands to the same means of sterilization that we do our instruments and dressings; therefore it is necessary to use antiseptics in connection with other means before we are justified in considering our hands and arms in condition of asepsis, whereby we are warranted to handle and explore parts and regions that would readily become contaminated with any septic material brought into contact with them. One of the many operations that are being performed to-day that some years ago were considered as involving too much risk to the life of the patient, or I might say patients, is the operation of symphyseotomy. The operation means, as you know, the division of the pubic joint, thereby rendering the natural opening capable of allowing the passage of a viable child, without which, either on account of the presence of an abnormally enlarged head, or malformed condition of the pelvic bones, such delivery would be an impossibility.

HISTORY.—The operation was first performed by one Courvee, a French physician, in the year 1644, but not until the death of the mother had occurred, and he did it to save the life of the child; but as early as 1598 a thesis was written by another French surgeon, Pinaud, describing the operation. Again we find that a Hungarian surgeon by the name of Pluick, in 1766, performed the same operation as did Courvee, under similar circumstances. Then in 1768 a medical student, Jean René Sigault, wrote

* Read before St. Louis County Medical Society, July, 1896.

a memoir on the subject and read it at Angers, France; but the operation of symphyseotomy was not performed on a living subject until 1777, when it was done by Sigault himself with a successful result. From 1777 to 1858 there were about 100 cases reported, with a maternal mortality of 31 and foetal mortality of 65. With these statistics staring the operator in the face, is it any wonder that the operation became comparatively obsolete? But in 1866, Professor Morisani, of Naples, brought it again before the profession, and his success enabled it to be looked upon with much more favor than previously. In 1892, the Parisian surgeons and gynaecologists for the second time took up the operation of symphyseotomy in lieu of Caesarean section, for both of these operations have the same end in view, namely, to save the lives of both mother and child or children. Dr. R. P. Harris, of Philadelphia, in 1892, theoretically favored the operation, but it is Dr. Charles Jewett, of Brooklyn, to whom we must give the credit of first performing the operation in America, which was done on September 30th, 1892. By a letter from Dr. Jewett I learned that the child in this case did not live, owing, as he claims, to too long delay before seeing the case. Since that time, as far as I can learn, there have been reported some 75 operations with a maternal mortality of 14 per cent. and infantile mortality of 26 per cent., and although we are proud of our American surgeons, and justly so, their results have not been as good as those of foreign surgeons in this operation, for we find Morisani and his followers in Italy have performed some 55 operations with a fatality of only 3.5 per cent. maternal, and 5.5 per cent. infantile, while Pinard, of Paris, has done 20 operations with the loss of only one mother; and last is Zuifel, of Liepsic, who reports 23 symphyseotomies without the death of a single mother and only two infants, while at the same Mecca of surgery we find that the best results for Caesarean section is 5.5 per cent, which is really a record to be proud of; but when we are called upon to choose between two operations having the same end in view, we are not justified in doing the more serious one, and I think you will agree with me that symphyseotomy is not as difficult or does not involve as much risk to the mother, and little more, if any, additional risk to the foetus, as does Caesarean section.

Without going into the minute measurement of the pelvic openings, which we all have a more or less accurate knowledge of, I would lay down a rule, that where the opening is out of proportion to the size of the foetal head, thereby preventing, by mechanical obstruction, the engaging of the head in the superior strait, and after trying honestly to assist nature with forceps we still find the head unable to engage, whether the malformation be foetal or pelvic, I think we are justified in performing symphyseotomy; or if by examination we find the pelvic opening very small, either on account of a very prominent sacrum, or very acute pubic arch, we are justified in doing the operation without having tried and failed in forceps delivery. Always having given nature a fair chance to remedy the trouble, but especially in multipara, where craniotomy has been resorted to several times before, I think that to again deliberately take the life of the infant is assuming responsibilities which

no one should ask a physician to do, and it is nothing but right that the mother should share with her unborn babe a portion of the risk; for it is most horribly repulsive, to me at any rate, to take up the perforator and deliberately destroy the life of an innocent child, although yet unborn, that we should hail with delight an operation which, through recent improvement in technique, has proven itself of much value in saving of life, both *maternal* and fœtal (for I believe that cases are as fatal to the mother, and more so, where craniotomy is performed, than is symphyseotomy), and especially so when the operation is comparatively easy to perform.

All things demanding radical means, I would first put my patient thoroughly under an anaesthetic, and after carefully preparing the parts by shaving, scrubbing and douching, would pass a metal catheter into the urethra, which will permit of the urethra being drawn aside out of harm's way, and then make the incision from about half an inch above the pubis downwards in the median line. As soon as the opening was large enough to admit of the finger as a guide to the knife, and to steady the same, I would pass the blunt-pointed bistoury, moderately curved, down behind the pubic arch, and after finding the joint by a sawing motion cut upwards and outwards, when we shall meet with no serious hemorrhage, unless we get into the corpora cavernosa of the clitoris, which with care can be avoided; even if there is considerable hemorrhage, it can easily be controlled by packing the wound with gauze. There is one precaution I would take, which I never saw mentioned, in reference to this operation, and that is, to keep the bladder moderately filled with urine until after I was through cutting, as by that means we would be more certain of the peritoneum being lifted up out of harm's way, as is done in suprapubic cystotomy, and escape the danger of opening into the peritoneal cavity. The operation of symphyseotomy is, as described above, of necessity blind surgery; but with care and an acquired sensitive touch it should not be dangerous or hard to perform. There are other methods advised or followed by some, and one is a larger opening above, while another is a small opening from below, between the urethra and clitoris, which has the advantage of drainage if one expects suppuration, but also has the disadvantage of more liability of injury to the delicate structures surrounding and forming the clitoris, and also the increased danger of a more ready and convenient course for any septic material arising from fetid lochia to contaminate the wound.

After the joint is severed we will find that the interpubic opening is from $1\frac{1}{2}$ to $2\frac{3}{4}$ inches; the one I operated upon separated about $2\frac{1}{4}$ inches, in which the conjugate diameter would gain $\frac{1}{2}$ an inch, the transverse diameter $\frac{5}{8}$ of an inch, and the oblique nearly an inch, and if you stop and think of the relative positions of the sacrum and iliac bones, you will see that the pubic ends must drop downwards as well as separate. At this stage I would advise forceps delivery to aid nature, care being taken that the bones do not drop too far apart, else it will so strain the sacro-iliac ligaments that your patient will complain more of pain in those quarters than anywhere else; even with care you cannot prevent all discomfort referable to those joints, as experience will teach you.

Another care has to be taken at this time, and that is to prevent the soft parts, including the urethra and neck of the bladder, from becoming injured by contact forcibly with the sharp corners of the severed pubic arch, which can be done by gauze packing down between and below the sharp corners. This accident happened to my friend, Dr. McLaren, of St. Paul, a transverse opening being made in the urethra, but which speedily healed by suturing and using continuous drainage.

After delivery of the child it is advisable to again insert the metal catheter in the urethra, and by pressure downwards prevent the soft parts from becoming engaged between the ends of the bones as they are being brought together, and the best and handiest way to retain the severed joint in position is to use broad adhesive plaster straps about 2½ inches wide, reaching from one trochater to the other, and then by having strong canvas bandages made to fasten together with straps and buckles you will find an easy and convenient method of holding the parts together; with one finger in the vagina you can distinctly feel the relation of the bones one to the other and get them correctly adjusted. The wound which was made through the skin can be sutured with catgut or any other suture material, and where proper aseptic precautions have been taken should heal by first intention. As for the position of the patient after operation I would advise the dorsal for the first week, then she can move, lying on either side as is most comfortable; by the position on the side we would get the advantage of gravitation in holding the bones together, and experience less chance of having retroversion of a subinvoluted uterus than if patient was continually on her back. There is no occasion to wire the ends of the bones together, as was once thought the only means of keeping them in proper position and prevent mobility. In the case I operated upon I was called out to Lester Park one morning and found my patient very much exhausted from a long night of very hard labor, something over nine hours since the second stage had commenced. I found the os dilated and dilatable, but the head was perfectly free. I had the patient again put under ether, and applied the forceps. Although I used considerable force the head showed no signs of engaging, but could be distinctly felt above the pubis, pressing fairly against the acute pubic arch. After consultation with Drs. McAuliff and Spier, who had preceeded me in the case, we decided upon symphyseotomy as being the best means of saving mother and child. I prepared the patient for the operation, and here found myself without the blunt-pointed curved bistoury, so had to content myself with using a straight, ordinary scalpel. I protected the parts as well as I could with my finger guiding the knife, and succeeded well; but unfortunately, just as I was about through I took the handle of the knife to sever a few remaining strands of the subpubic ligament and in so doing made an opening into the bladder or urethra, but without using any suture I put in permanent drainage through the urethra, and within 48 hours, through the tube leading to the receptacle for urine becoming occluded, I found the bladder with nearly two pints of urine, which did not show itself through the opening above, although it caused considerable pain in region of bladder from over di-tension. After from 3 to 4 weeks in the recumbent position the

patient should be allowed to sit up or walk around, if she feels like it. As for the prevalence of ununited cases after such operations, I think they are very, very rare, and that with time we shall find in every instance there has been a firmly united joint. Patients having undergone the operation will be watching with considerable interest whether she can discern any mobility, and even if she does I do not think it is any greater than would be present at the same period following a severe instrumental delivery, for we know that often the joint is tested severely, and sometimes the ligamentous and cartilagenous union of the joint is ruptured. In my case the mother made a good, although somewhat tedious recovery, going through the painful experience of phlegmasia dolens alba in both extremities, but was up in four weeks The child died some 35 hours after birth from some cerebral complication setting in, which I do not think would have happened had the operation been done a few hours earlier, or perhaps if I had operated without myself having attempted forceps delivery. As it was all credit is due Dr. Spier for the manner in which he resuscitated the infant.

But you can easily understand that being called to a case like the above is vastly different from attending a multipara, where before you found the conditions of the parts such that prevented delivery and craniotomy had to be done, and upon the following delivery or pregnancy you would make all arrangements to perform the operation, and do it before your patient is worn out from labor, and the foetus in extremis from the same cause. Comparisons as to results are not fair without allowances being made in the conditions of both patients at the time of operation. As Dr. Ralph Pomeroy of Long Island hospital properly says, "The field of symphyseotomy is undoubtedly very limited. The indication will arise least frequently as a matter of pure election before labor, and most frequently in the emergency of actual labor; but while pelvimetry may give us warning of probable difficulties, we find just below the limit of the normal the mechanical factors of a successful passage of the superior strait are largely relative, and are not to be estimated arbitrarily in terms of centimeters or fractions of an inch. And in the emergency, as we usually meet it, many considerations besides the mechanical are to be weighed,—the amount of previous manipulation and consequent trauma, the general condition of both mother and child, and the facilities for establishing asepsis."

It is all very nice for medical men, convened as we are, to say what should be done; the next thing is to do it, and it is generally necessary to procure the sanction of the friends; and we will find husbands as different in ideas as were Napoleon Bonaparte and Henry VIII of England. The former replied, when asked by Dubois, the physician attending the Empress, "Treat the Empress as you would a shop-keeper's wife in the Rue St. Martin, but if one life must be lost, by all means save the mother." Vastly different from the King, who did not value the life of a woman; for Henry, when questioned before the birth of his son, Edward, said, "Save the child by all means, for other wives can easily be found." Further, as craniotomy is and has been the operation most prevalent in difficult cases, I would quote and endorse the language of Dr.

Meadows, that "The whole tendency of modern midwifery practice is setting in very decidedly in the direction of absolutely and entirely abolishing the most abominable, unscientific and brutal proceeding of craniotomy." Also, the last utterances of Dr. Burns, "The cases in which the lives of the mother and child are supposed to stand in antagonism are vanishing before the light of modern science and skill;" or as has been so nicely expressed by Baudelocque, in speaking of craniotomy, "To mutilate a living child in order to avoid Caesarean section (or symphyseotomy) is the offspring of ignorance and inhumanity;" and Connor, in upholding Caesarian operation, said, "Looking at the results from Caesarian section when done early, an accoucheur who performs craniotomy on the living child sacrifices a life which he is in duty bound to preserve; surely an infant come to maturity is destined for something better than to have its glimmering life extinguished by an accoucheur skilled in the use of the dreadful perforator." And when such arguments are used by such men in favor of Caesarean section, or Porro's operation against craniotomy, I hold they are also applicable in favor of symphyseotomy; for, excluding all fibroids as the obstruction, the latter is to be preferred in the cases generally met in practice. Where the patient is in a properly equipped hospital, where all arrangements are at hand for thoroughly aseptic work, it rests altogether at the will of the surgeon after consulting the husband; but in the ordinary lying-in-chamber, with the meagre means at our disposal for aseptic work, I would prefer not entering the abdominal cavity, and for that reason hold that the operation of symphyseotomy is vastly superior to Caesarean section or Porro's operation, and that either is preferable to craniotomy, always allowing the child in utero to be alive, and the mother able to withstand the operation. The operation, whether section or symphyseotomy, should always be done early, if we would expect the best results.

When?—When the women all wear bloomers, and their skirts are laid away; when their legs are no more rumors, coyly hid from light of day; when the petticoat's forgotten, with its swishing, wishing swirls, and there's less demand for cotton, I'll be sorry for the girls. I'll be sorry for the lasses who in school are at their books, at the head or foot of classes—I'll be sorry for their looks; for their ma's will make their trousers, and, good heavens! don't we know, who were boys, but are not now sirs, that they'll be a holy show. It is bad enough when Willie weareth pants his mama made; and it often knccks you silly just to see the youthful blade wearing pants that no man knoweth which is front or which is back; if he cometh or he goeth there is quite an equal "slack." But your Susie! Oh, 'tis galling; scalding tears will downward glance when you hear the urchins calling; "say, where did you get those pants?" You will see her youthful glowing, but by no dead certain rule, can you tell if she is going or is coming home from school. There'll be trouble you'll allow sirs, there'll be anguish for the pa's, when their daughters will wear trousers that are just revamped from ma's. So I'm weeping as I'm writing, and my great tears fall like pearls, scarce I know what I'm indicting I'm so sorry for the girls.—*Fresno Republican.*

SURGERY.

IN CHARGE OF

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FURTHER OBSERVATIONS UPON THE TREATMENT OF MALIGNANT TUMORS WITH THE TOXINS OF ERYSIPELAS AND BACILLUS PRODIGIOSUS, WITH A REPORT OF 160 CASES.*

BY WM. B. COLEY, M. D., NEW YORK.

ABSTRACT.

The cases reported extend over a period of upwards of four years, and they embrace nearly every variety of sarcoma and carcinoma. In practically all the cases the diagnosis was confirmed by microscopic examination made by the most competent pathologists. In addition, the majority of the tumors had been pronounced inoperable by leading surgeons, and in many cases still further evidence of malignancy was furnished by a history of repeated recurrence after operation.

It would seem possible from this large series of cases to arrive at some scientific opinion as to the value or worthlessness of the toxins in malignant tumors. The fact was emphasized that this method of treatment had been advocated only in inoperable cases which were entirely hopeless, not only from a surgical standpoint but also as regards any other hitherto known method of treatment. The author expressed the desirability of having these results subjected to the severest criticism. If they were able to stand this they would be of the greatest importance, not only as bearing upon the future treatment of malignant tumors, but also as throwing some light upon the unsolved problems of the etiology and pathology of such tumors.

An attempt was made to show that the method of treatment rested upon a rational basis, namely, the considerable number of cases of undoubtedly malignant tumors that had been permanently cured by attacks of accidental erysipelas. The writer's own observations covered the whole field from the accidental erysipelas to the mixed toxins. He was led to take up this line of investigation from having observed a small, round-celled sarcoma of the neck, five times recurrent, and given up as hopeless, cured by an attack of accidental erysipelas, patient having been found alive and well seven years afterward. His first series of ten cases

* Paper read at the meeting of the Johns Hopkins Medical Society, April 6, 1896.

were treated with repeated injections of living bouillon cultures, with the view of producing erysipelas. The unmistakable improvement that followed the repeated injections, even when no erysipelas was produced, especially in sarcoma, suggested that a portion, if not all of the benefical influence was due to the toxins instead of the living germ, and this led to experiments with the toxins alone.

The first experiments were conducted with bouillon cultures that had been subjected to 100° C. and were used without filtration. The reactions following the injections of this solution were similar in character to those obtained from injections of the living germ, although less severe. In order to increase the virulence of the cultures, the writer made use of the fact demonstrated by Roger, that the bacillus prodigiosus, a non-pathogenic organism, had the power of intensifying the virulence of the streptococcus of erysipelas. The toxic products of the two germs were prepared separately and mixed at the time of using.

This mixture produced a much more severe reaction than when the erysipelas was used alone, and the beneficial influence upon the tumor was likewise more marked. Later on, at the suggestion of Mr. B. H. Buxton, the two germs were grown together in the same bouillon, the erysipelas being grown alone for 10 days and the bacillus prodigiosus added and the two allowed to grow together for another week or 10 days, at the end of which time they were passed through a Kitasato filter. This appeared to be a still greater improvement in technique.

A still further change was made with a view of utilizing whatever of value might exist in the insoluble products remaining in the dead germs; the cultures were heated in a temperature sufficient to render them sterile, which was found to be 58-60° C. for one hour. By the addition of a little thymol the fluid could be kept indefinitely in glass-stoppered bottles. This preparation was much stronger than those before described, and experience proved it to be much superior to the others in its action upon the sarcoma. An analysis of the cases treated showed that 48 were round-celled sarcoma, 13 spindle-celled, 7 melanotic, 2 chondro sarcoma, 3 mixed celled, 14 sarcoma, special type not known. Total number of cases of sarcoma 93; carcinoma and epithelioma 62 cases; sarcoma or carcinoma 10; tubercular 2; fibro-angioma 1; mycosis fungoides 1; goitre 2; keloid 1. Of the cases of sarcoma, nearly one-half showed more or less improvement; the variety that showed the greatest improvement was the spindle-celled; that which showed the least, the melanotic. Next in order of benefit was the mixed celled—round and spindle; then round-celled, while osteo-sarcoma closely approached the melanotic in showing but little change. In a series of 9 cases of melanotic sarcoma, no improvement was noticed in 6, very slight in 3. Most of the cases of osteo-sarcoma failed to respond to the treatment, many showed slight improvement, and one case, a very large osteo-chondro-sarcoma of the ilium, apparently disappeared and the patient remained well for nearly a year, when a recurrence occurred. One case of round-celled sarcoma of the neck of very rapid growth showed very marked decrease during the first week's treatment, after which time it continued to grow in spite of large doses of the toxins.

Report of Successful Cases.

The cases most worthy of especial note were the following:

Case I.—A twice recurrent inoperable sarcoma of the neck with large secondary sarcoma of the tonsil.

Last operation performed by Dr. Wm. T. Bull, March, '91. The tumor was so extensive that only a portion could be removed; the general condition of the patient, May 4, 1891, was so bad that he was expected to live but a short time. He could swallow no solid food, and liquids with difficulty. He was treated from May 4 until October 8, 1891, with repeated local injections of living cultures of streptococcus of erysipelas; decided improvement followed the injections and whenever they were discontinued for a short time the growth increased in size. On October 8 a severe attack of erysipelas was produced by using a new and more virulent culture. During this attack the tumor of the neck nearly disappeared, the tumor of the tonsil decreased in size; general condition of the patient rapidly improved and he had soon regained his usual health and strength. He has had no treatment since, He was last seen in September, 1895, four years later, at which time the tumor of the tonsil, though still present, had greatly shrunken in size; there was a small mass at the site of the old scar in the neck, apparently made up of cicatrical and fibrous tissue,

Case II.—Large recurrent sarcoma of the back and groin; entire disappearance of both tumors; patient in perfect health, without recurrence four years after the beginning of the treatment, and more than three years after the cessation of the treatment.

Patient male, aged 40; sarcoma of the back and lower lumbar region 7x4 inches, with a secondary tumor the size of a goose-egg in the groin. The groin tumour was removed by operation, January, 1892; it rapidly recurred. Patient was examined by Dr. Wm. T. Bull and several other surgeons, who all regarded the case as inoperable. Diagnosis of sarcoma was made and confirmed by Dr. Farquhar Ferguson's (pathologist to the New York Hospital) examination of a portion removed under cocaine.

Treatment by repeated daily injections of living bouillon cultures of erysipelas was begun in April, 1892. At the end of two weeks a severe attack of erysipelas was produced. At the end of three weeks both tumors had entirely disappeared. Recurrence followed in July, and the tumors, both in the back and the groin, grew more rapidly than before. The injections were resumed, and between October, 1892, and January, 1893, the patient had four additional attacks of erysipelas; they were milder in character, and the effect upon the tumor was less striking.

In January, 1893, the tumor in the back was removed, but that in the groin left undisturbed. At the end of three weeks there was an apparent recurrence in the back, and the injections with the mixed toxins of erysipelas and bacillus prodigiosus were then begun. Both tumors quickly disappeared. Treatment was discontinued in March, 1893; patient has been in perfect health, free from recurrence since.

Case III.—Large inoperable sarcoma of the abdominal wall and pelvis; entire disappearence of the tumor; no recurrence three years after.

The patient, a boy of 16 years of age, had a tumor 7x5 in. in extent, involving apparently the entire thickness of the abdominal wall, attached to the pelvis, and judging from the symptoms and position, evidently involving the wall of the bladder. A portion of the tumor was removed, and pronounced spindle-celled sarcoma, by Dr. H. T. Brooks, pathologist of the Post-Graduate Hospital. The case was regarded as inoperable by Prof. L. Bolton Bangs and referred to Dr. Coley for treatment with the toxins. Patient was admitted to the N. Y. C. H., Jan., 1893, treated for three months with the mixed filtered toxins. At the end of that time the tumor had nearly disappeared, and the remainder was gradually absorbed after the injections were discontinued; there was no breaking down of the tumor tissue; patient has been in perfect health up to the present time, more than three years after cessation of treatment.

Case IV.—Large inoperable sarcoma of the abdominal wall; entire disappearence; no recurrence 2½ years afterward. The patient a woman, 28 years of age.

Exploratory operation had been performed in August, 1893, by Dr. Maurice H. Richardson, of the Massachusetts General Hospital. The tumor was too large to be removed; a portion was excised for microscopic examination. The diagnosis made by Dr. W. F. Whitney, pathologist to the hospital, was fibro-sarcoma. The patient was sent to Dr. Coley by Dr. Richardson for the erysipelas treatment. The injections with the mixed toxins were begun in October, 1893, and continued for 10 weeks; the tumor entirely disappeared. The patient is still in perfect health, with no trace of recurrence.

Case V.—Spindle-celled sarcoma of the leg. Popliteal region. Three times recurrent. Disappearance. Recurrence in gluteal region after one and a half years.

The patient, a girl 15 years of age, had undergone three operations by Dr. Wm. T. Bull for spindle-celled sarcoma starting in the metatarsal bone. In January, 1894, a tumor the size of a child's head was removed from the popliteal region. The one in the stump, the size of a hen's egg, was left to test the value of the toxins. Complete removal of the tumor in the popliteal region was impossible. The toxins were administered at the N. Y. H., under Dr. Bull's direction, for about 2 months; treatment was continued at the N. Y. Cancer Hospital by Dr. Coley. The indurated mass in the calf slowly disappeared; tumor in the stump also disappeared.

Patient remained well for 1½ years. At the end of that time there was a recurrence in the gluteal region. The toxins were again administered; the tumor diminished in size, and in February, 1896, was removed.

Case VI.—Extensive spindle-celled sarcoma of the scapula and chest-wall; entire disappearance of the tumor under three months' treatment; patient at present in perfect health; no trace of recurrence 23 months later.

The patient, a girl under 16 years, was admitted to the "incurable ward of the New York Cancer Hospital on June 20, 1894. The tumor apparently started in the region of the left scapula, 4 months before, and extended to the vertebral line behind, and in front to the edge of the

sternum; it was fixed to the chest-wall, measured 13 inches behind, 7 inches in front. The left arm was bound down by the new growth so that it could not be raised to a horizontal position; the skin was normal; there was no general or local signs of inflammation. A portion of the tumor was removed from microscopic examination and a diagnosis of typical spindle-celled sarcoma was made by Dr. H. T. Brooks, pathologist to the Post-Graduate Hospital. The patient was treated for three months with daily injections of the mixed unfiltered toxins; improvement was immediate and the tumor very rapidly disappeared by absorption. Patient remains in perfect health at the present time.

CASE VII.—Intra-abdominal round-celled sarcoma of mesentery and omentum; disappearance; patient well, without evidence of recurrence 1½ years later.

The patient, female, aged 23 years, was operated upon by Dr. Willy Meyer at the German Hospital, in August, 1894. A small tumor involving the mesentery, omentum, large and small intestine, was found and removal considered impossible. Portion was excised for examination and pronounced by Dr. Schwytzer, the pathologist of the German Hospital, "round-celled sarcoma." Patient was referred to Dr. Coley for treatment with the toxins. Injections were given in the gluteal regions and abdominal wall for about six months, with occasional intervals. In February, 1896, an attempt was made to close the sinus in the abdominal wall which had persisted since Dr. Meyer's operation. The sinus was found to lead into the gall bladder and several impacted gall-stones were removed; careful exploration of the abdomen failed to reveal the presence of any tumor. Patient perfectly well, August 7, 1896.

CASE VIII.—Epithelioma of the chin, lower jaw and floor of mouth; entire disappearance; patient perfectly well two years later.

The patient, a woman 34 years of age, was admitted to the Methodist Episcopal Hospital in May, 1894. A rapidly growing tumor was found, involving lower jaw, floor of mouth and soft part of the chin, extending over an area about the size of a silver half-dollar, presenting the appearance of a typical epitheliomatous ulcer. The patient was regarded as inoperable by Dr. Geo. R. Fowler; a portion of the growth was excised and diagnosed as epithelioma by Dr. Wm. N. Belcher, pathologist to the hospital. The patient was treated at the N. Y. C. H. from June, 1894, till September, 1894, with the mixed unfiltered toxins. There is no trace of the tumor to be found at present and the woman is in perfect health (July, 1896).

CASE IX.—Enormous osteo-chondro-sarcoma of the ilium; tumor disappeared; patient regained his usual health and remained well for seven months, at which time a recurrence occurred. The tumor has resisted further treatment; the patient, although alive, is in a hopeless condition.*

CASE X.—Spindle-celled sarcoma of the hand, 6 times recurrent; remained well for one year, then recurred.

CASE XI.—Very large, twice recurrent angio-sarcoma of the breast; treated for six months with the erysipelas and prodigiosus serum; marked

* Patient died, July, 1896.

reduction in size, making the tumor easily removable; excision, September, 1895; no recurrence, February 8, 1896.

The patient, a woman aged 59 years, was admitted to the N. Y. C. H. on January 20, 1895; had a very large recurrent tumor in the region of the left breast, extending from the sternum to the mid-axillary line; the tumor was fixed to the chest-well, and entirely inoperable; patient was extremely weak. She improved slowly under the local injections of the erysipelas serum, and in September the tumor had become so much reduced that it was easily excised.

Case XII.—Large inoperable round-celled sarcoma of the iliac fossa: treatment was begun in June, 1893; tumor almost entirely disappeared; patient was in good health, August, 1894, after which time he was lost sight of.

Case XIII.—Probable sarcoma of the sacrum; disappearance of tumor; complete restoration to health.

The patient, male, 38 years of age, began to lose flesh and strength in February, 1895, Later had severe pains in lower portion of spine and sacrum, shooting down the legs. April 1, began to get lame in right leg; soon after in the left; all of the symptoms progressively increased, and on the 2nd of May his weight had fallen from 175 to 134 pounds. He was admitted to Dr. Kinnicutt's service at St. Luke's Hospital; rectal examination showed a tumor, hard in consistence, attached to the anterior portion of the sacrum, the lower portion of which only could be reached with a finger. Clinical diagnosis of Dr. Kinnicutt and the others who saw the patient in consultation was inoperable sarcoma. No microscopic examination was made. A two to three weeks' trial with the erysipelas toxins was advised by Dr. Coley. The improvement was almost immediate; injections were made into the buttocks; treatment was repeated daily, and at the end of one week the excruciating pain had almost entirely subsided, the lameness improved rapidly, and at the end of six weeks the patient had gained 28 pounds and was able to resume his work. Examination, March 8, 1896, showed the patient to be in perfect physical health; his lameness had disappeared; no trace of a tumor could be detected on rectal examination; his weight at that time was 175 pounds.

Several other cases in which very marked improvement had followed the use of the toxins were reported.

Attention was further called to nine successful cases in the hands of other surgeons who had used this method. The most important of these were the following:

Case 1.—A large spindle-celled sarcoma involving almost the entire palate and pharynx. This case, it was stated, had already been reported in the *New York Medical Record*, November 17, 1894, but its value was greatly enhanced by the fact that there had been no recurrence two years afterwards.

Case 2.—Extensive inoperable intra-abdominal sarcoma, reported by Dr. Herman Mynter, of Buffalo, in the *New York Medical Record*, February 9, 1895. In this case the tumor disappeared, and up to April, 1896, there had been no recurrence.

CASES 3-6.—Drs. L. L. McArthur and John E. Owen of Chicago had had three successful cases, although sufficient length of time had not elapsed to determine whether or not they could be classed as cured. All of the cases were recurrent, and in two amputations of the leg had been advised; in a third, amputation of the arm.*

CASE 7.—Czerny of Heidelberg, who has used the method in four cases of sarcoma and in four of carcinoma, has reported one case of rapidly growing, inoperable, round-celled sarcoma of the parotid which nearly disappeared under the influence of 18 injections. The case has been more recently referred to as cured, by Glueckmann.

CASE 8.—Dr. Judson C. Smith, of the Post-Graduate Medical School, had a case of small round celled sarcoma of the neck, the size of an orange, disappear entirely under eight weeks' treatment with the mixed toxins. Microscopic examination was made. Patient gained 25 pounds in weight, remained well for a number of months, at the end of which time a recurrence took place.

CASES 9-10.—Two other successful cases were briefly reported, both of which were confirmed by microscopic examination; both cases were recent, and therefore could not be classed as permanent cures.

The writer stated that he did not expect the profession at large to accept without question and criticism such remarkable results as he had reported, and for that reason he had related with some detail the successful cases in the hands of other surgeons who had employed this method. He was of opinion that a series of upwards of 20 successful cases of inoperable sarcoma (four of which had remained well upwards of 2½ years), the diagnoses of which had been established beyond question according to accepted methods of diagnosis, ought to be sufficient to demonstrate the real and positive advance that had been made in a field which, up to this time, had been regarded as absolutely hopeless. He did not doubt that there were those who would still remain skeptical about the value of the toxins in spite of the evidence presented. Such persons must either fail to see any logical connection between the accidental erysipelas and the toxins, or they must go even farther and deny that there are any authentic cases of malignant tumors that were cured by accidental erysipelas. The only explanation they can have to offer for the results which cannot be questioned is, that in all the successful cases there must have been an error of diagnosis.

Such an explanation might be entitled to some consideration were a single case only involved, but those who would seriously propose it as a satisfactory explanation in view of the results in more than 20 cases, could not claim to be guided by scientific principles. The writer stated that he had carefully examined the literature of the subject of spontaneous disappearance of tumors supposed to be malignant, but had failed to find a single instance in which the diagnosis had been confirmed by the microscope. It would appear remarkable that these cases should be the first on record with a clinically and microscopically confirmed diagnosis to disappear spontaneously, and it would seem more remarkable still that

* In two of these cases there was a suspicion of recurrence in April, 1896.

this disappearance should be coincident with the beginning of the treatment with the toxins.

Furthermore, it would be clearly unfair to rule out these cases on the ground of error in diagnosis, without ruling out the cases of cure following operation, for the same reason.

The writer then briefly referred to the various theories that had been offered in explanation of the action of the toxins. He still adhered to his opinion, expressed in his earlier paper published in December, 1892, that the micro-parasitic origin of malignant tumors furnished the only rational explanation of this action. His conclusions were, (1) that the mixed toxins of erysipelas and bacillous prodigiosus exercise an antagonistic and specific influence upon malignant tumors, which influence in a certain proportion of cases may be curative. (2) That the influence of the toxins is very slight in most cases of carcinoma, including epithelioma, most marked in sarcoma, but that it varies greatly with the different types, the spindle-celled form being by far the most responsive to the treatment. (3) That the action of the toxins is not merely local in character, but systemic. (4) That the toxins should be reserved for use in clearly inoperable cases of sarcoma, or in cases after primary operation, to prevent recurrence.

DISCUSSION.

Dr. Welch.—I have been very much impressed by this personal statement from Dr. Coley, and I see no way of gainsaying the evidence which he has brought forward, that there is something specifically and genuinely curative in his method of treatment. A single undoubted cure of a demonstrated cancer or sarcoma by this treatment would be enough to establish the fact that the treatment exerts some specific curative effect, for the spontaneous disappearance of undoubted malignant growths of this character is almost unknown. Dr. Coley has, however, presented to us positive proof of the cure, not of one only, but of several cases of malignant tumor by his method. Although I suppose that in any given case the chances of cure by this method are at present not great, still the demonstration that cure is possible gives every encouragement for perseverance in this line of investigation and work, and for efforts to perfect the method of treatment.

It is interesting to learn that the most strikingly beneficial results have been obtained in the treatment of spindle-celled sarcomata. There are certain kinds of sarcomata which some pathologists are inclined to rank rather among the infectious tumors than among the genuine tumors, in the sense in which these terms are used by Cohnheim; but it is rather certain sarcomata of the lymphoid type than the fusiform-celled sarcomata which are thus believed to be possibly outside of the class of genuine tumors, according to Cohnheim's classification.

As Dr. Coley suggests that the variations in his results may depend in part upon variations in the virulence of his cultures, and as it is well known that the streptococci vary notably in virulence, I would like to ask if he has as yet utilized the methods of Marmorek in order to obtain cultures of uniformly high degrees of virulence. Dr. Livingood, in my

laboratory, has confirmed the results of Marmorek and succeeded repeatedly by his method in transforming streptococci of low virulence into those of very exalted virulence.

It seems to me that it would be practicable and most interesting, and possibly demonstrative of the specific effects of the treatment, if Dr. Coley, in carrying out his researches, would occasionally cut out small bits of tissue from the tumor and by their examination endeavor to determine the details of the process of cure.

It does not seem to me absolutely necessary to adopt the hypothesis of the parasitic causation of these malignant growths in order to explain their disappearance under this treatment. It is conceivable that the peculiar biological properties of the tumor cells—and peculiar they unquestionably are—may render them particularly susceptible to the toxic substances injected. The evidence that the curious bodies often seen in malignant tumors are genuine parasites is, in my opinion, far from conclusive at the present time.

DR. FINNEY.—I have had the opportunity of observing the action of both the erysipelas organism and the toxin in a number of cases, both in hospital and private practice. One point which Dr. Coley has not mentioned to-night, but which he has referred to previously, I will speak of, because I think it of great value. It is the influence of the treatment on cases which may not finally result in a cure. The first case in which I used the erysipelas occurred about the time Dr. Coley began to make his observations in New York. It was a case of a woman with inoperable carcinoma of both breasts. Against my will, but at the urgent request of herself and her husband, I inoculated with a pure culture of the erysipelas streptococcus. She had at the time a very distressing and severe cough, with intense pain, evidently from involvement of the pleura. She had also evidences of internal metastases. After the first reaction from the erysipelas the pain almost entirely disappeared, and did not reappear with severity while the patient lived. She had been almost constantly under the influence of morphia up to the time of the inoculation, and after that time she had only a little codein from time to time to relieve her cough, which persisted after the pain had disappeared. I observed a similar action in another case. I think this patient lived three months after the inoculation. She gradually wasted away, more from inanition resulting from the internal metastases.

I had one case of inoperable carcinoma of both breasts, in which it was impossible to produce any reaction from the erysipelas. I injected it under the skin, I scarified and dressed the wounds in pure cultures in large amounts in very virulent erysipelas without getting the slightest reaction. Of course there was no result from this case.

I would like to ask Dr. Coley whether he has ever observed any cumulative effect of the toxins? In one or two cases it seemed as if that had happened. After a number of injections with gradually increasing doses, without any reaction, a sudden tremendous explosion would take place which slowly subsided, and then for a varying length of time there would be no reaction, even with larger doses than were used previously.

I have observed no cases up to the present time where there has been

a cure. But, unfortunately, all the cases in which I have used it, except one under treatment at the present time, have been either carcinoma or cases of sarcoma that were beyond hope from any source.

Dr. Coley.—I have been very much interested in the discussion and I think I have gained as much from it as any one. I was particularly interested in the remarks of Dr. Welch. I did not mean to make quite so strong a statement in regard to the parasitic theory; I should have said that that was the way it appeared to me.

I have used the streptococcus from all sources, but the streptococcus from a virulent case of erysipelas seems to have a better effect than a streptococcus from an abscess.

I have used Marmorek's method somewhat. Mr. Buxton has repeatedly passed the cultures through rabbits, and he had been doing it for some time before Marmorek's paper came out. That is the way, I believe, in which improvement in technique is to come, along the lines which Marmorek has shown us, in increasing the virulence of the cultures.

I will say, in answer to Dr. Bloodgood's question regarding metastases, that the patient with sarcoma of the back and groin was a case of marked metastases, the tumor being the size of a goose egg and also recurrent in the groin. That case has remained well over three years since the cessation of treatment.

A case which I published a year ago, treated by Dr. Rumgold of San Francisco, was one in which a round-celled sarcoma reappeared eight times in the breast. It disappeared under the mixed toxins, but the patient died a few weeks later. Autopsy showed very extensive metastatic deposits in the internal organs. In this case the external growth had been cured, but the internal growths were too far gone to be influenced.

About removing specimens during the course of the treatment, as suggested by Dr. Welch, I will say that I have done that in a considerable number of cases. In many of these cases a marked fatty degeneration and necrosis of the malignant cells were clearly visible under the microscope. I shall try to show these changes in micro-photographs of the sections.

In regard to intra-orbital sarcomata, I have not had an opportunity of treating such cases before removal of the eye. I have had four or five cases of recurrent tumors in the orbit after the eye had been enucleated. The effects were very slight, if any. They were all melanotic or round-celled sarcomata.

As to the safety of the treatment, I think that if the cases are selected with some judgment the injections can be used with almost perfect safety. I have had three cases in which I am sure death was hastened by the use of toxins. In one case I ought not to have used the treatment. There was an enormous sarcoma of the scapula and chest wall. The patient was so much emaciated that he could not have lived over a couple of weeks, but with two very minute doses of the weaker solution of the toxins he lived only three days.

The differences obtained by the same doses at different times is best explained, I think, not by cumulative action, because that is not clearly

proven, but by the fact that the reaction is greatly increased when the injection is made into a more vascular part. A patient can stand perhaps five to ten times as much injected subcutaneously remote from the tumor as he can injected into a vascular tumor. Sometimes we inject into a part that is more vascular than others, and to this is to be attributed the difference in reaction. I always caution anyone to begin with the minimum dose and increase it dery gradually. One-half a minim of the unfiltered mixed toxins is sufficient for the initial dose.—*Johns Hopkins Hospital Bulletin.*

TREATMENT OF CYSTITIS.—Dr. L. Grant Baldwin (*Brooklyn Med. Jour.*) has found that in acute cases of cystitis relief can be obtained in twelve hours, and often in a much shorter time, by the administration of sandalwood oil, together with benzoic acid, and a cure is practically obtained in from two days to a week. He does not find it necessary to make any changes in diet nor to use opium in any form for the pain. The sandalwood oil is best given in capsules, five drops every hour or ten drops every two hours, until the tenesmus and almost constant desire to urinate is removed, which will usually be after two or three doses, then the interval may be lengthened, or better, the doses lessened, as it is rapidly absorbed and eliminated, until at the end of a week it may be discontinued altogether. The benzoic acid is best given combined with biborate of soda, as:

℞ Sodii biborat .....gr. xlv.
Acid benzoic.....gr. xxxv.
Aquæ.....℥ iii.

Of this two teaspoonfuls should be given every three or four hours in water till the urine is acid in reaction, as shown by litmus.

In the chronic form of cystitis, the treatment is much the same with irrigation of the bladder added to the sandalwood oil, and the benzoic acid may or may not be given.—*International Jour. of Surg.*

LEFT HANDEDNESS IN ANIMALS.—There seems to be evidence that some animals are left-handed. *Popular Science News.* Parrots grasd and hold food with the left claw. Livingstone stated that lions struck with the left paw; he taught that all animals are left-footed. David S. Jordan, who has been shaking hands with parrots to verify this observation, finds that the left-handed habit may be induced in parrots from the fact that in offering one's finger for the parrot to grasp it is usually that of the right hand. The parrot, therefore, puts his left claw forward. If the left finger be offered the parrot will put forward the right foot. He says, however, that there is apparently a small preference for the left foot, but this he accounts for on the ground that left-footedness is most always induced in parrots from the fact that those who offer the finger or food to the parrot usually do so with the right hand. Repetition of this process, it would seem, tends to make the parrot more or less left-footed.

MEDICINE.

IN CHARGE OF

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MANKIND AND THE DOCTOR.

From the time of Æsculapius till now one school of medicine after another has arisen, and each in turn has declared that all others were false and misleading, and in this has generally told the only truth it had to utter. The doctor has thus displayed a trait common to all mankind, but mankind has been as unsparing in its criticisms and condemnations of this trait as though it had not always been guilty of the same error.

If the doctor had reserved his criticisms for his brethren's dogmas he would have done little harm, but unfortunately, he has not done so. Too often it has happened that if the world had believed all that the doctors have said of each other it would have been justified in concluding that they were not only deluded ignoramuses but knaves as well, into whose keeping it would be unsafe to commit either life or pocketbook.

Fortunately, the world has not taken the doctor's utterances very seriously and has not allowed them to influence his conduct to any great degree, but it can not be doubted that this conduct has tended to lower the physician in the eyes of mankind, and to diminish the respect in which he is held.

Though mankind has played a subordinate part in the drama (or tragedy) of medicine it has been an important one. He has stood up and taken his medicine, enjoyed its taste as best he could, endured its effects, noticed its results, and distributed the rewards, often giving the prize of his favor to the doctor who knows best how to play upon his ignorance and weakness.

The late Dr. Alonzo Clark, of New York, used to say that "it is impossible to overestimate the credulity of mankind," and "that everybody wants a little humbug in his medicine." This seemed to one of his hearers at the time to be an exaggeration, but it was pure wisdom.

Demand and supply usually go together. Mankind has always demanded to be humbugged and the humbug has appeared. The astrologer, the magician, the healer who practised by the laying on of hands, the medicine man, the faith curer, the Christian scientist and the plain quack each came in turn, and the existence of any of them to-day is as discreditable to mankind that supports and esteems them as to the pretenders who live by their deceptions. Those who are neither qnacks nor the employees of quacks denounce them as parasites who prey upon the ig-

norant and credulous, and there is truth in this, but it is not the whole truth.

The guarded statements of science too often fail to meet the wants of the sick and their friends. They demand light when there is no light and hope where there is no hope. They demand answers to questions that only Omniscence can answer, and assurances for the future that only a prophet can give, and turn from the honest and scientific man to the only one who will pretend to have the information they desire, the unscrupulous and ignorant. The commercial instinct in man impels him to drive sharp trades and he bargains for guaranteed cures with the only one who will meet his wishes, the quack, and though he usually gains nothing but experience, he rarely learns anything by it. Mankind takes kindly to amulets, and to-day the horse-chestnut, the amulet for rheumatism, rattles in the pocket of the clergyman as he climbs the steps of the pulpit, and the iron ring contrasts with the diamond on the finger of the banker who believes that the iron ring will shield him from the gout. No man would make amulets or play the quack if there was no demand for his wares. Unscrupulous men see their opportunity to profit by supplying "a long felt want," and quackery is one of its results.

It may be claimed that the quack has seduced the world, but if so it must be admitted that "Barkis was willin'."

A very large portion of mankind is ignorant of the vast change that has occurred in medical science and the medical profession during the past century. They have not yet learned that physicians are no longer a body of men warring over dogmas, persecuting and driving out of their respective camps those who chance to differ from them, but are now, on the contrary, quite indifferent to dogmas and devoted to the advancement of science and the improvements of methods of cure.

Recently Mr. Herbert Spencer in an article on "The Evolution of the Medical Profession" said that "the incorporation of authorized practitioners has developed a tradesunion spirit which leads to jealousy of the unincorporated practitioner, that is, the irregular. . . . Like the religious priesthood," he says, "the priesthood of medicine persecutes heretics and those who are without diplomas."

The profession has persecuted heretics, but to-day it troubles itself very little concerning heretics or their beliefs, and no intelligent man who knows the real sentiments of physicians can hold the opinion that the tradesunion spirit controls their action.

Mr. Spencer's utterances show that he is one of a large class of educated people who are not yet emancipated from an inherited prejudice against physicians, and who are the unfortunate victims of a failure of development of the higher cerebral centres causing what is known as a lack of common-sense and consequent fellow-feeling for quacks.

Though most of the world flies to the physician when ill and listens to his utterances with anxious attention, there is hidden in the minds of many, a fixed idea of distrust of him, which is probably a survival of a sentiment originating in centuries of experience with physicians of the medieval type. This distrust is less in evidence to-day than ever before and the wisest are freest from it, and are quite ready to say with Holmes

that the diagnosis of the competent physician is divination and his prognosis, prophecy.

However highly regarded by some the physician may be to-day, it is certain that the public is exceedingly inconsiderate in its treatment of him, and there is a crying need of a reform in regard to the demands made upon him, and the spirit in which they are made

There is a general impression that he is always in the saddle, and that "one hour in the twenty-four is just like another to him." This is true in one respect, in that he is always on duty.

No one who has not tried a continuous tour of duty can have any conception of what this means. The soldier is placed in a somewhat analogous position, and must always hold himself ready to meet emergencies, but here the parallel fails, for the soldier receives orders from a presumably wise despot who is concerned to save the strength and maintain the efficiency of his command, while the doctor receives his orders from those who usually are incapable of judging as to the magnitude or imminence of the danger to be met and, in many instances, entirely careless as to times or seasons or the reasonableness or unreasonableness of these demands, or the effect of such demands upon the welfare of anybody but themselves. How often has the physician echoed Johnson's remark that "a sick man is a villian."

The physician is as well educated, as much of a gentleman, as honorable and devoted to the interests of his clientele, and as worthy of consideration in all respects as are the members of any profession or calling. The most important interests of mankind are intrusted to him, and it is equally for the interest of mankind and the doctor that his mental and bodily faculties should be maintained in a condition of efficiency, but this consideration has never entered the minds of the public, and probably would benefit nobody if it did.

Men are possessed of the most unreasonable ideas as to the duty of physicians to the public, and expect and require instant and abject submission to the most unreasonable demands. Physicians have for so long a time responded without delay or question to calls for their services from all sorts and conditions of men, regardless of time or season, or the probability of remuneration that mankind now makes the most unreasonable demands upon the physician without the slightest thought or hesitation. Such instances as the following are frequent, and illustrate the subject better than many words. A physician was called by telephone to go nearly a mile one terribly stormy winter night about ten o'clock. He had regard for his horse and walked to the house. The patient had been sick a day or two but was not very ill. The physician prescribed for the patient and prepared to leave. Then the woman who had been the instigator of the cruelty to the doctor awoke to the fact that her husband must get the medicine from the drug store, a short distance away, if it was got that night, and said to her husband, an able-bodied man, "You must not go out to-night! It is perfectly dreadful outside. We can wait till morning, can't we, doctor?"

The doctor replied that her judgment was correct and that it was a pity that she had not used judgment instead of the telephone an hour ago. This was his last visit to that family.

This incident shows two things that every physician knows to be true of a large portion of mankind, namely, that the question of the reasonableness of the demands made upon the physician frequently is not considered by those who are usually considerate, and that any attempt by the physician to protect himself from unnecessary hardship is not tolerated, and is exceedingly dangerous to his business interests.

Late one wet and windy evening a man asked a physician, who had just finished a long and hard day's work, to make a visit and give his opinion in a case of consumption of several months duration. The doctor said he would do so the next morning. The man asked if he could not go at once, and said that the family had been thinking for several weeks of getting his opinion, and that now they had decided to get it and wanted it that night. There being no reason why the visit should be made that night, but several very good ones why it should not be, the doctor told the man what these reasons were and offered to go the next morning. The man refused to wait till morning, and departed much displeased and never returned.

Now this may be taken simply as a story of a very unreasonable man, but it is more. The man is a type of a class who believe that they have a right to demand and receive a physician's services at any time they see fit to call for them regardless of the time of day or the existence or non-existence of an emergency. It would seem as though any sane mind would see the abominable cruelty and injustice of such a claim, which is not made upon any other class. But in this matter common sense seems not to rule mankind.

To test this the story of the unreasonable man has been told a number of times to people in various stations in life, and very rarely has the physician's position been endorsed. Sometimes the physician has illustrated the story by the following fable:

A man discovered a crack in the foundation of the house he lived in. After some time, finding that the crack grew no smaller he decided very late one evening that he would have it repaired. So he went to the mason ond told him that he wished to have his wall repaired. The mason told the man that he would call the next morning and see what could be done. The man replied that having decided that the wall must be repaired he wished a beginning to be made that night, whereupon the mason told the man that he was an ass and went to bed.

People usually say that the mason was right, but the doctor was wrong because "it was a case of sickness."

The physician cannot have a seven-hour day as do those aristocrats, the plumbers, or an eight-hour day with the carpenters and masons, or a ten-hour day with the laborers, or a twelve-hour day with the railroad men. He has a twenty-four-hour day with the sun, moon and stars, and it is very fatiguing to keep up witn the procession.

The patients of the specialist in medicine consult him in the hours he appoints, even though they may be sick, and the lawyer's clients do likewise though they may be consumed with anxiety to get his advice.

The general practitioner is pursued days, nights and Sundays. The business man, who is slightly ill, does not visit him during the day be-

cause he is busy, and does not do so in the evening because he is tired, but pushes the telephone button and the doctor does the rest.

To have declined on the ground that he was five times as tired as the patient, or that no emergency warranting an evening call existed, would have been to incur much displeasure if nothing worse. Such conduct is an invasion of the physician's rights, to yield to which is in derogation of professional dignity, and the fact that it is done thoughtlessly is no excuse or justification.

Some of the reasons for the lack of consideration displayed by mankind in its dealings with the physician have been referred to, but there is another that ought to be considered, and the physician is responsible for its existence. The physician has never tried to protect himself against the unreasonable demands of his patients. He has in some degree acted the part of the indulgent mother who is always considerate and never asks any consideration for herself, and who yields everything, time, strength, and opportunities for recreation.

He has given freely of his services to all the needy, and his part in the medical charities of the world has apparently been that of the most devoted altruist, though truth compels the admission that he has thereby often served his own interests. But of this latter the world knows little. The young doctor, from motives of humanity and self-interest, gladly accepts a call to go anywhere at any time, and sad experience teaches the older man that unless he wishes to see his business transferred to the younger, he must continue to display the same self-sacrificing and submissive spirit to the end of his career. So long as mankind prizes least that which is easiest to attain the present attitude of the profession in this matter will operate to its disadvantage.

This is not a plea for commercialism in medicine. The doctor will exchange the chief jewel in his crown for a lump of lead when he ceases to exercise the blessed virtue of charity; but he ought to remember that charity begins at home.

It has long been the cherished precept of the profession that its highest mission is to display the virtue of a self-effacing altruism. It is a universally accepted proposition that in his relations with the sick the physician shall place their interests before his own, and he has done so ungrudgingly, oftentimes at the expense of all that makes life worth living, and the result has been that mankind has come to view the physician as one who has no rights the sick man is bound to respect. This is simply a manifestation of unregenerate human nature. Self-preservation is a law of nature which operates powerfully upon the sick man and his friends, and cannot safely be disregarded by the physician. In his work on "Moral Evolution," Prof. G. W. Harris says what every physician may well take to heart, namely, that "Self-preservation with all its incident evils of struggle, waste and cruelty, is shown to be in line of progress and an essential condition of progress."

Mankind and the doctor have reciprocal rights and duties, and it is quite as much the physician's duty to see that mankind respects his rights as it is to do his duties to mankind.

The duty one owes himself is equal to the duty he owes to mankind.

This duty of "self-realization," as it is termed, is as much opposed to selfishness as it is to altruism which passes into self-obliteration. All recognize instinctively the duty of self-realization as opposed to self-obliteration.

Professor Harris says: "One must love himself aright in order to love his neighbor aright. According to this comprehensive precept ('Thou shalt love thy neighbor as thyself!') self-love is not derived from love to others; but love to others gets its pattern, and therefore its measure, from love to self. This is as distinct a declaration of self-love as could possibly be made, and certainly on the best authority. The somewhat similar precept which is found both in Christian and in Confucian ethics —'to do unto others as you would that they should do unto you'—indicates the right every one has that others should seek his good and so objectifies self as needing love and service. If one is entitled to the efforts of others for his good, he certainly is required to serve himself as he would have others serve him, and as he ought to serve them."

This is the matter in a nut-shell.

To-day the conscientious physician who attempts to protect himself from the unnecessary and unjustifiable demands of the ignorant, thoughtless or selfish portion of mankind, does so with the feeling that he is violating the higher ethical spirit of the profession, but the proper interpretation of the "Golden Rule" gives him this right, the right to serve others as he would have them serve him.

If this conception of the duty of the medical profession to itself and to mankind was adopted as a rule of conduct in place of that which has resulted in evil to the physician, a step would be taken toward a better condition. We can only make a beginning, but this much it is our duty to do.—Extract from an address by Dr. O. F. Rogers, *Boston Medical and Surgical Journal.*

THE STAINING AND MOUNTING OF TUBE CASTS AND OTHER ORGANIC URINARY DEPOSITS.—Bramwell makes the following useful suggestions for the study of urinary sediments. An ordinary conical urine-glass is filled with equal parts of urine and an aqueous solution of boric acid, and set aside until the deposit settles. This is then removed by means of a pipet and transferred to an ordinary test-tube containing about half a drachm of a solution of picrocarmin, and the two are thoroughly mixed and set aside for 24 hours. Some of the sediment is then removed by means of a fine-mouthed pipet, and mounted. If there is reason to suspect the existence of amyloid disease of the kidney, a solution of methyl-violet may be used instead of that of picrocarmin. In order to bring out the fine details of the tube-casts stained in the manner described, and in order to preserve them as permanent preparations, they may be mounted in Farrant's solution, consisting of gum arabic and distilled water, each four parts, and glycerin, two parts, with a little camphor. A small test-tube is filled three-quarters with this solution, and in it is placed, by means of a fine-mouthed pipet, the stained deposit from the test-tube containing the mixture of urine and solution of picrocarmin. The smaller tube is securely corked, inverted two or shree times in order to facil-

itate thorough mixture, and put aside until the sediment has time to settle. In the course of three or four days a minute drop of the deposit is removed from the bottom of the tube by means of a fine-mouthed pipet and placed upon a slide and covered. The preparation may, in the course of a few days, be sealed in the ordinary manner. If the preparation thus mounted is overstained with the solution of picrocarmin, the deposit should be transferred to fresh Farrant's solution. Any organic urinary deposits may, of course, be stained, mounted and preserved in the same manner.—Dr. B. Bramwell, *British Medical Journal.*

A matter of great importance to physicians and insurance companies has been decided in the circuit court at Battle Creek, Mich. The question came up over the application of a life insurance policy of $20,000 on the life of a citizen of Detroit. The company learned after its issue that the applicant had misrepresented his physical condition and began suit to annul the policy. It was ascertained that he had been treated at Battle Creek. The physician who treated him was subpœnaed, but refused to testify or answer any questions, on the ground that a physician's relations to his patients are sacred and that he could not be compelled to testify in regard to the ailments with which his patient is afflicted. Judge Smith ruled that the physician must give his testimony and issued an order accordingly.—*Exchange.*

Scarlet Fever Germs as 1st Class Mail Matter.—Grasset (*Ann. d. Hyg.*, Paris, 1895) reports that a child visiting away from home was taken ill with scarlet fever; the friends remarking that the desquamation was like the casting of a snake's skin, wrote a description and enclosed three pieces of skin for the parents. Six and a half days after the receipt of the letter, a baby brother of the first child, living at home, took the disease.

In this connection, Sanne's case of transmission of contagion by mail will be recalled. Two persons received a note from a convalescent from scarlet fever, who wrote that she was desquamating so freely that she had to brush the fine scales off the paper on which she was writing. Some days later both recipients became ill with the disease.

The Business of a Physician.—We do not believe that it lessens the dignity of a professional gentleman to possess some of the qualifications of a business man. An editorial in an exchange, advocating that every student of medicine should have a business training previous to study of medicine, perhaps goes a trifle too far.

To practise medicine in the highest sense of the word means that one must possess something above mere medical knowledge and the mercantile instinct and methods. Medicine is not the place for the pure money-maker, for he can do better elsewhere; but we have no sympathy with the medical individual who believes that the doctor should not employ business methods for fear that he might be deemed to be upon the level fo the tradesman.

Take life insurance work. The careless way which some physicians attend to this department of their practice is a reflection upon the whole

profession. It is too much like business to give a prompt, decisive answer to one's correspondents, therefore many doctors' desks, from the accumulated correspondence of weeks, look like the contents of a waste-basket turned upside down.

Every doctor should be business man enough to study how to economize time, keep a record of his work, be systematic, be exact, keep his accounts posted and send bill regularly, and answer every business letter, if possible, on the day of its receipt.

These matters are strictly *business*, and we should treat them in a manner *business like.—Medical Sentinel.*

THE CAUSES OF RETROVERSION AND RETROFLEXION OF THE UTERUS.

Dr. Hunter Rabb says that (*Cleveland Med. Gazette*, July) in the causation of backward displacements of the uterus the following factors may be concerned:

1. Congential defects. A short vagina necessitates a forward position of the cervix; this tends to bring the fundus and anterior surface of the uterus under the direct line of abdominal pressure. The ordinary distension of the bladder now throws it backward, thus causing a displacement. A congenitally long cervix can not rest with its long axis crossing that of the vagina, but must accommodate itself to this axis; this also tends to throw the fundus backward. Where the cervix is long the body of the uterus is apt to be small and short. In such case the normal position of the uterus is in retroversion.

2. Extreme distension of the bladder throws the fundus far back in the pelvis behind the median line. When this happens often the malposition is liable to continue.

3. Impacted feces in the rectum extending up above the ampulla push the cervix down in the vagina, and thus change an anteversion into a retroversion.

4. A sudden severe strain put upon the abdominal muscles, especially when the bladder is full, brings about a retroflexion by forcing the uterus down when the pelvic floor yields.

5. Of all causes of retropositions the most frequent is a relaxation of the vaginal outlet; the relaxed outlet must be regarded as a deficiency in the pelvic floor, which leaves a smaller or larger surface over which no counter-resistance to the intra-abdominal pressure remains. Every act accompanied by irra-abdominal pressure tends to thrust out the adjacent vaginal walls; when these have once entered the orifice they continue to be forced down, wedging the posterior wall farther away from the symphysis. While the parts below give way the uterus is forced towards the outlet. The fundus rotates so far back that the pressure is finally spent on the anterior surface of the uterus and complete retroversion or retroflexion is established.

6. Finally retroversion and retroflexion may be caused by inflammatory changes in the uterine support, or by dragging of adhesions resulting from pelvic peritonitis.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

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THE BACTERIOLOGY OF INFANTINE DIARRHŒA.

BY ALLAN MACFADYEN, M.D., B.SC.,

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ABSTRACT.

It is the bacteriology of the small intestine which has the greatest practical importance in health and disease; and its study likewise presents the greatest difficulty, inasmuch as this portion of the gut is cut off from direct observation during life.

In the large intestine putrefactive decompositions takethe upper hand, and the living factors at work in the small intestine become therefore obscured and difficult to identify. The variety of forms present in the dejecta renders the determination of the presence of specific microbes a task of peculiar difficulty, especially where we have to deal with a morbid condition in which diarrhœa and more or less marked constitutional symptoms are the main features.

These facts help to explain the absence of positive data regarding the etiology of infantiee diarrhœa, though everything points to a bacterial origin of this complaint. There are three factors to be considered:

1. The bacteria present in health and in the course of disease.
2. The easily-decomposed food—milk.
3. The susceptible organism of the child, predisposing to such complaints.

Escherich found that in the milk fæces two organisms predominated, viz., the bacterium coli commune and the bacterium lactis ærogenes. They especially attack the milk sugar, and the chief products of their action are acetic and lactic acid, and CO_2 and H. gas. The process is a fermentative and not a putrefactive one. The results agree with what we know of the action of bacteria in the adult's small intestine. The investigations of Macfadyen, Nencki, and Sieber show that the bacteria of the small intestine primarily decompose carbo-hydrates, with the result that the contents of the small intestine have an acid reaction. This acidity will be a main factor in preventing the development of a putrefactive decomposition under normal conditions.

Escherich did not find in cases of infantile diarrhœa any organisms that might be called specific. He supposes that in the upper intestine a main factor in the causation of diarrhœa is abnormal acid formation by

bacteria, and that in the lower intestine the decomposition is of proteid matter.

The action of the bacteria does not take place through a direct invasion of the organism, but through the absorption of poisons formed by them. It is probably through their action on the milk and not on the body that the bacteria acquire their dangerous properties. In the child toxic effects may result from substances that produce little or no effect on the adult.

Baginsky examined 43 cases of summer diarrhœa, but did not find any organisms of a specific character. The general conclusion he comes to is that several kinds of saprophytic bacteria may produce the disease under favorable conditions. The severe cases of diarrhœa seem to be due to poisons developed by bacteria from the proteid constituents of the food. Booker isolated altogether 33 forms of bacteria from cases of infantile diarrhœa. There was great variety, but no constancy in the types found.

Jeffries and Baginsky were not able to confirm Lesage's statement that the green diarrhœa of children is associated with the presence of specific organism. The determining factor is the milk and the decomposition products arising from it. The researches of Vaughan in this connection are of first-rate importance, and deserve careful consideration and confirmation. Vaughan has isolated from poisonous milk a crystaline body, called by him tyrotoxicon. The symptoms of tyrotoxicon poisoning resemble those of cholera infantum. Vaughan also obtained toxic bodies from cultures of Booker's bacteria, which produced vomiting, purging, and sometimes death in dogs. This observer believes that there are many bacteria which may produce diarrhœa in children by an action on the milk inside or outside the body.

There can be little doubt that in hot weather the milk undergoes a profounder decomposition than the ordinary lactic acid fermentation, by which its proteid constituents are attacked. These changes are due to bacteria, and may occur without visible alteration in the appearance of the milk. The milk, therefore, furnishes a more fruitful field for investigation than the intestine, If the living agents at work in the milk were accurately known, we would be in a position to determine the best methods for their extinction, and in such diseases it is their prevention that should be the main object of our investigation. Flügge emphasises the fact that milk sterilised by the usual methods is not without danger. A number of resistent forms are not destroyed, and three were found to produce a profuse and sometimes fatal diarrhœa in young dogs.

Though our knowledge is imperfect regarding the specific agents at work, everything points to this disease being due to changes produced by bacteria in the milk. It remains for future research to determine more accurately the nature of the toxic products, and of the bacteria that produce them.

THE PRESIDENT (Dr. Finlayson) asked if there was any explanation of the green motions observed in such cases.

DR. MACFADYEN replied that Dr. Le Sage thought that a specific bacillus causing this existed, but his results had not been confirmed by such observers as Jacobi or Baginsky.—*British Medical Journal.*

A CASE OF ACUTE SEPTICÆMIA TREATED BY ANTISTREPTOCOCCUS SERUM: RECOVERY.

BY P. COLEMAN, M.B., B.S., M.R.C.S. Eng., L.R.C.P. Lond., Clacton-on-Sea.

AND T. G. WAKELING, M.R.C.S. Eng., L.R.C.P. Lond., Clacton-on-Sea.

Dr.——, middle-aged, attended a fatal case of puerperal septicæmia on June 28th. From this time he began to show symptoms of poisoning, suffering from dyspepsia, with vomiting; his skin assumed an icteric tint, and styes appeared on his eyelids. He frequently complained that "he could not get rid of the awful smell."

I was first called in to see him on the afternoon of July 13th. The temperature was 104°, skin pungently hot and jaundiced. Hiccough violent and incessant. A few consonating crepitations could be detected at the base of the right lung. He vomited occasionally some blackish-coloured fluid, complained of cramp in his stomach, and "feeling shivery." He was delirous at times, drowsy at others. Through the night he was extremely restless, and hiccough scarcely ceased; he only dosed for a few minutes at a time.

On the next day, July 14th, he was wildly delirious, and bathed in perspiration. Temperature 104.6°, pulse 110, respirations 50. The tongue was dry and coated. Signs of pneumonia were well marked in the right lung, and a few clicks could be heard over the lower part of the left lung anteriorly. Vomiting occurred several times during the day, and delirium increased. Drs. Laver (Colchester) and Foster (Thorpe) kindly saw the case, and confirmed the diagnosis of septicæmia.

On July 15th the symptoms continued, and in an aggravated form. The respirations increased to 56, and the pulse became more rapid (120) and feeble; he had had no sleep; there was retention of urine—relieved by the catheter—and the consolidation of the lung was increasing.

On July 16th hiccough was constant; there was obstinate constipation, and the patient was becoming very livid. At 11 p.m. his condition was briefly as follows: Pulse running, feeble, intermittent (116); temperature 103.6°; great lividity; patient quite unconscious; bathed in perspiration; hiccough constant, feeble, and half strangled. At the suggestion of Mr. Wakeling (who now saw the patient for the first time) 20 c.cm. of anti-streptococcus serum (promptly supplied by Messrs. Burroughs and Wellcome) were injected. The pulse almost immediately became much fuller and slower. At 1.15 a.m. a second injection of 10 c.cm. was given. The temperature continued to go up till 4 o'clock, but at 3 o'clock he became quite conscious for the first time for three days, and talked rationally. The injection of 10 c.cm. was now repeated every four hours.

At 8 a.m. on July 17th, temperature had fallen to 100.2°; hiccough was much less troublesome. There was profuse perspiration. The tongue was much cleaner at tip. In the evening the temperature again reached 103.6°. Injections were reduced to 5 c.cm., and only given every seven hours, as the supply of serum was running short, and no more could be supplied

for three days. The temperature an hour after injection went up to 104°; pulse 122; respirations 54.

At 4 a.m. on July 10th the patient was much worse; pulse 130; respirations 64. He was lying on his back bathed in perspiration, was more delirious, the pupils were widely dilated, the bowels acting constantly, and the motions mixed with blood (hæmorrhoids were present.) At 6.30 a.m. an injection of 5 c.cm. serum was given, and at 9.15 a.m. the patient seemed better, and was quite conscious.

On July 20th he was still delirious on an off; hiccough was troublesome; the catheter had to be used.

On July 21st he was much weaker, and had difficulty in swallowing for the first time. At 4 p.m. the temperature was 103°; 10 c.cm. serum were injected at 6.30 p.m. He perspired freely shortly after (temperature went on falling gradually till at noon on July 22nd it had reached the normal). The patient was not conscious all day. The catheter had to be used, but hiccough had ceased. There was twitching of the face and hands. He was able to lie on the left side. The serum injection was discontinued owing to difference of opinion.

On July 22nd the temperature was normal or subnormal all day. Twitching of the muscles of the hands continued. The face had lost its drawn look and lividity, and appeared fuller. The patient asked for a cup of tea; was quite rational when spoken to, but at other times muttered to himself a good deal.

On July 23rd the highest temperature was 98.8°. The catheter was no longer necessary.

On July 24th he was quite conscious all day. The temperature was 101.4° at 4 a.m., normal at midday, but rose again in the afternoon. The patient, who complained of great pain in the bladder, passed a catheter himself.

On July 25th he appeared better, in spite of the temperature remaining high all day.

On July 26th the temperature reached 101.2 at 4 p.m., and 10 c.c m. of serum were injected. The serum was again discontinued. The patient was comfortable and conscious.

On July 27th the temperature fell to 99.2°, rising to 101° at 12 p.m. On July 28th the temperature varied from 98° to 100.4°. On July 29th the patient vomited. The temperature varied from 99° to 101.2°. On July 30th the temperature ranged from 99.2° to 102.8°. On July 31st the patient was worse, perspired profusely, was delirious at times, muttering when asleep. Temperature 99.2° to 100.8°. It was decided to give two injections of 10 c.cm. of serum in every twenty-four hours until the temperature should continue normal. From this time he continued to make a good recovery, the serum being permanently discontinued on August 4th.

REMARKS.—Having read with much interest in the *British Medical Journal* of July 4th an account of a case of hæmorrhagic septicæmia successfully treated by antistreptococcus serum we wish to add further testimony to the value of the treatment by the citation of the above case The diagnosis was confirmed bacteriologically. Cultivations were obtain

ed from the blood two days after the serum treatment had been commenced.

It will be noticed that the serum was not used till three days after the onset of acute symptoms. A peculiar feature of this case is that no local manifestations of the place of entry of the poision were apparent. The patient says he had an abrasion of the right forefinger.

We can fully bear out the remarks by Messrs Ballance and Abbott as to the immediate improvement which took place in the pulse, which became slower, fuller and more regular. In four hours the patient became conscious for the first time for two days. The tongue became cleaner and more moist. The temperature after an initial rise began to fall. The mind became clearer.

In the interval when the serum was discontinued (July 21st to July 26th) the patient gradually relapsed. A slight improvement followed the single injection on July 26th, when it was again discontinued until July 31st. The condition of the patient again became much worse Injections of serum (10 c.cm.) were then given twice a day. An immediate improvement followed, which continued till August 4th, when the injections were finally stopped. The patient has since stated that he "felt a new man" after each of the latter injections of which he was conscious. The lungs cleared up with but little expectoration.

It will be seen that the serum was mostly given in large doses, and that the larger doses produced more beneficial results than the small. The injections were made in the abdomen and loin. We noticed that the last half of the 20-c. cm. bottles which were opened in the morning produced a local erythema when injected in the evening, although the serum was kept on the interval in ice, and every precaution was taken to sterilise the site of injection and the syringe. The intensely hot weather may have had something to do with this.

In another case we should use a freshly-opened bottle for each injection., and would recommend that the serum be bottled in 10-c. cm. bottles with India-rubber eorks. Two days after the injections were discontinued some urticaria gave a little trouble, but did not retard recovery, and, as the patient is now (August 19th) able to walk about his room and take drives, we feel we ought not to delay in placing these notes before the profession.—*British Medical Journal.*

Herpes Zoster Caused by Mental Disturbance.—Mr. Antony Roche (*Lancit*). A woman had suddenly received news that her husband had been ordered to India; the next morning herpes was noticed on her left side. A left-side herpetic eruption appeared on an old man, some hours after he learned that a firm, in which he was interested, had failed. Herpes developed in a woman on the day after she had been much distressed by the sudden illness of her son. A girl, 6 years old, of remarkable equable temperament had been disobedient, and sent to bed; she cried very much, and the next morning herpes was noticed on her left side. In the last case the herpes was ascribed to the grief of a woman at the parting from her son.—*The Alienist and Neurologist.*

NOSE AND THROAT.

IN CHARGE OF

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A HAWKBILL NASAL SCISSORS.

BY JOHN C. LESTER, A.M., M.D., BROOKLYN, N.Y.

The hawkbill scissors, will be readily recognized as an adaptation of an idea long since put into practical application by Professor Alexander J. C. Skene, of this city, in another department of surgery.

In operating upon cases of hypertrophy of the middle turbinated bone, the thought occurred to the writer that a more rapid and perhaps more satisfactory method of dealing with this condition might be accomplished by an instrument that would remove a V-shaped piece of the bone, thus allowing the major part of the mucous membrane to remain intact, and providing, when the remaining cut surfaces were brought together, a space sufficiently large for perfect respiration. This thought has materialized in the device herewith presented.

The idea of removing the middle third of the turbinated bone, and allowing the opposing portions to unite, thereby retaining as much of the mucous membrane as possible, originated with Dr. Fred. Whiting, of New York city, and was accomplished by means of the nasal trephine. This method of operating, in the hands of the writer, has, almost without exception, caused much pain, and at times it has been necessary to postpone operation, owing to excessive hemorrhage.

With these scissors the writer has been able to remove at once all that was necessary to relieve cases of complete obstruction.

The accompanying cut, kindly furnished by the instrument-makers, Messrs. George Tiemann & Co., accurately represents the instrument as employed by the writer.—*The New York Medical Journal.*

RHINOLOGICAL.

THE INFLUENCE OF DISEASES OF THE NOSE AND ACCESSORY CAVITIES ON THE GENERAL HEALTH.—Dr. E. J. Moure (*New Orleans Med. and Surg. Journal*, July, 1896) states that there are two conditions which may have a considerable effect on the general health of the affected subject; these are hypertrophic rhinitis and fetid atrophic coryza. When the hypertrophy is sufficiently well marked, so as to render nasal respiration difficult or perhaps impossible, the patient finds himself exposed to all kinds of bronchial and pulmonary complications.

It regard to fetid atrophic coryza, all practitioners are familiar with the poor and depressed appearance of ozenic patients, which may be explained either by the vitiated air which these patients breathe, or by the fact that they frequently swallow the septic products. There is another complication, however, which is not so well recognized, but which Dr. Moure has frequently met with in this category of diseases. It is the faculty with which these patients may become tuberculous. In his opinion, the enlargement of the nasal cavities, and especially the cutanization of the mucous membrane, renders the penetration of the tubercle bacillus more easy into the respiratory passages; especially since, in most cases of ozena, the larynx and trachea are also affected with the morbid process. There seems to be a connection of cause and effect between these two affections, to which it would be well to call the attention of observers.

In diseases of the accessory sinuses, we frequently have gastric and gastro-intestinal disturbances, which may be explained by the constant falling of pus into the throat, whence it is swallowed unconsciously, and this incessant absorption of pus by the digestive passages is not long in creating morbid conditions

Sinusitis, with abundant and fetid suppuration, constitutes a latent morbid condition, which may take on a dangerous development with the least instigation, and under an influence very trivial in appearance. In these cases there is a centre of microbian culture, which may at any time inoculate itself at some special point, and afterwards develop with great rapidity; especially as the soil is usually well prepared for this culture on account of the former absorption of toxic products, which the system does not always completely eliminate. The suppuration of the maxillary sinus, on account of its abundant and often fetid secretion, appears to affect the general condition most often and easily. W. S.

Rheumatic Complications of the Nose, Throat, Ear and Eye.—Though the special organs may become the seat of the disease, general rheumatic symptoms may often be entirely absent (Dr. Wm. Cheatham, *Denver Medical Times*, July, 1896). Tonsilitis is nearly always of a rheumatic origin. The larynx may also become involved in the process. Extension from the pharyngeal tissues may reach the ear. Any part of this organ may be attacked. A distinctive feature in diagnosis is the great difference between the slight objective symptoms and the marked subjective signs. Anti-rheumatic medication, with exclusion of other inflammatory affections, readily establishes the diagnosis.—M. D. Lederman in *Laryngoscope.*

The Pathology and Treatment of Deviations and Spurs of the Nasal Septum in Young Children.—Dr. E. J. Moure (Paris) states that while the affirmation of Zuckerkandl is true that the nasal septum does not commence to deviate until the age of seven years—that is at the time of the evolution of dentition—still we frequently find deformities of the septum before this age, these cases being due to traumatism (*New Orleans Med. & Surg. Journal*, July, 1896).

In regard to treatment, Dr. Moure warns against operative procedures for correcting deformities of the septum in children below the age of seven or even ten years. At the time of the evolution of the second dentition, the framework of the nose commences to undergo an important change; and to attack surgically the principal support of the nose is likely to expose the patient to subsequent deformities which it may be difficult to remedy. He advocates the use of dilators, straighteners and other instruments of this kind in these cases. W. S.

FOREIGN BODIES IN THE NOSE.—Dr. Wm. Mulligan reports three illustrative cases (*Clinical Chronicle*, June, 1896).

Case one: a four-year-old boy had suffered from an offensive purulent discharge from the right nostril for six months. There had been several severe nasal hemorrhages. Upon examination, a foreign body was found in the right nostril, and proved to be a shoe-button, which was removed under chloroform with forceps. In the second case, the foreign body, also a shoe-button, was found situated high up in the right nostril. It was readily grasped and extracted. In the third case, the patient had suffered from a discharge of the right nostril for several years. He had also suffered from enlarged tonsils and middle-ear disease. An irregularly-shaped body was seen blocking up the right nostril. This was removed by means of a stout bent hook, and proved to be a rhinolith.

W. S.

THE TONSILLAR COUGH.—This sympton is explained by Dr. Furet (*Medical Record*, July 25, 1896) by the complex innervation of the gland. The tonsilar plexus, so-named by Andersch, is formed by the blending of the glosso-pharyngeal, the lingual, the spinal, and the vagus nerves. The pillars of the fauces which surround the tonsil are distinctly connected with the muscular tissues of the larynx. This cough is violent, spasmodic, and frequently very painful. No expectoration follows or accompanies it. This is a diagnostic factor. M. D. L.

HEREDITARY SYPHILIS SIMULATING ADENOID VEGETATIONS.—M. Garel (*Journal of Laryngology*, July, 1896) reports two cases. The first case had been operated on by a colleague, and eight days later perforation of the palate was found.

The second case was a young girl, with the typical fauces of adenoids. M. Garel refused to operate on account of a serious cardiac lesion. Two months later breaking down of a gumma caused perforation of the palate.

Both these cases rapidly recovered under potassium iodide.

The speaker insisted on the importance of careful diagnosis in such cases, in order to save the patient an operation which, if not dangerous, was at least useless. W. S.

THE TREATMENT OF ADENOID VEGETATIONS.—M. Helme (*The Journal of Laryngology*, July, 1896) states that, in spite of all that has been done since the time of Meyer, the only effective treatment of adenoids is the surgical.

Contra-indications are very few, viz., hemophilia, anomalies in the

pharyngeal arteries. The coincidence of an acute tonsilitis, or of scarlatina, measles, etc., necessitates the postponement of the operation.

Properly speaking, there is no recurrence of adenoids. Apparent recurrence is generally due to incomplete operation; true recurrence may occur in syphilitic, tubercular or malignant tumors. As a rule, improvement is immediate and marked, but in strumous cases it may be less so. In these, one should carry out local treatment, consisting of painting the naso-pharynx with resorcin and glycerine; also general treatment (thermal, sea-air, etc.).

Amongst the results of adenoids the worst are deformities of the thorax and vertebral column. Redard obtained good results in such cases by treating them with a sort of respiratory gymnastics, consisting in expanding as much as possible the affected parts, while the normal parts are held fixed. To overcome defects of speech, national and methodical respiratory movements, voice culture, singing, declamation, etc., are to be used.

Lastly there are the tubercular adenoids. Of these there are two types: (1) bacillary adenoids (Lermoyez), *i. e.*, where the bacilli are found inside the tissues—very rare, only one to seventy-five cases; (2) bacilliferous adenoids, *i. e.*, where the bacilli are found on the surface of the growths (Dieulafoy)—one to five cases.

Although these growths tend to shrink with advancing years, they must not be left untreated; for while disappearing themselves, they leave indellible traces behind.—*Laryngoscope.* W. S.

LARYNGOLOGICAL.

Throat Affections in the Eruptive Fevers.—J. Dennis Arnold, in the *Occidental Medical Times*, presents a timely and valuable paper, urging upon the general practitioner to give more weight and attention to the affections of the upper respiratory tract in the eruptive fevers, maintaining that they are "inclined to make light of such local lesions." The conditions of the nose, pharynx and larynx in measles, scarlatina, variola and typhoid fever, and the serious results of these upon the course of the general disease, and the treatment of each, are clearly described; and the author concludes that, "In view, therefore, of the important part played by the throat symptoms during the course of all the febrile exanthemata, it is evident that they should not be neglected as to active topical treatment, when it is probable such measures will be of avail in retarding or altering the disease as manifested upon the mucous surface. Of course the local therapy can in no wise replace a constitutional treatment which, from the nature of these diseases, must be chiefly tonic and supporting." F. B. E.

Says the *Internat. Journal of Surgery:* Let your most trusted assistant administer the anesthetic. Any intelligent person is able, with a little direction, to assist at the wound, but it requires skill and experience to anesthetize thoroughly and safely.

NERVOUS DISEASES AND ELECTRO-THERAPEUTICS.

IN CHARGE OF
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APOPLECTIFORM BULBAR PARALYSIS.

BY ALOYSIUS O. J. KELLY, A.M., M.D.

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J. S., male, aged 60 years, white, married, native of Ireland, a laborer by occupation, presented himself, April 8, 1895, at the Philadelphia Polyclinic Department for Nervous Diseases, service of Dr. Charles K. Mills, to whom I here desire to express my appreciation of his kindness in permitting me to report the case. It was impossible to obtain any family or previous personal history. While taking his midday rest and eating his lunch April 6, 1895, he suddenly lost control over the muscles of his mouth and throat. While the early portion of his lunch was e ten with ordinary ease, he was now absolutely unable to approximate his lips, to close his jaws, to masticate or retain any food in his mouth. He could not properly articulate, the saliva drooled, and all attempts at swallowing were unsuccessful. At the time the attack came on he was not rendered unconscious; he had no vertigo, no nausea, no vomiting, no pain, no paralysis of either arms or legs. When seen for the first time he could swallow liquids very well, saliva did not drip from his mouth so much as it did, and his ability to talk had improved a trifle. Following the attack he must have been practically unable to speak at all, as even now, endeavoring to speak, although he attempts to use the proper word, the results of his efforts are exceeding indistinct, almost unintelligible. He understands what is said to him. About one year ago, on the street, he became momentarily very vertiginous, and would have fallen to the ground had not a friend supported him. In a moment he recovered, and was as well as he was before the "attack," and went to work immediately. Since then his wife says he has been "strange," forgetful, distracted, mentally preoccupied, using frequently what she characterizes as "simple" (evidently senseless or incoherent) language. He has had no laughing or crying spells. He has had frequent attacks of vertigo of more or less severity during the year. Eight weeks ago he began to cough, especially during the night. Expectoration was thick and yellowish; no hemoptysis. Dyspnea has been constant, but becomes very much aggravated in attacks, which are particularly prone to come on during the night. He asserts that he gets attacks of

great palpitation of the heart, accompanied with excessive dyspnea, some cough, great anxiety, and precordial pain radiating throughout the left arm to the angle of the left scapula, and occasionally also across the chest into the right arm. He would have several such attacks of variable intensity and duration during the twenty-four hours. These continued for five weeks until relieved by treatment in the Medical Dispensary of the Polyclinic. He has no gastro-intestinal or genito-urinary symptoms. He uses alcohol to a considerable extent.

On examination, his lips, which are said to be swollen, are flabby and are very little if at all increased in size; his mouth is persistently half open; the saliva drips somewhat from his mouth; the naso-labial fold of the left side is much less marked than is that of the right; he has absolutely no control whatever over the muscles about his lips; the masseters act fairly well, though deficiently; the lower jaw deviates slightly to the left when fully depressed, and the tongue also slightly to the left when attempts are made to protrude it. These attempts are all abortive, as the tongue cannot be protruded much beyond the margin of the teeth; the tongue itself is broad and flabby. There is no disturbance of sensation whatever, nor are there any motor symptoms, other than those mentioned, referable to any of the cranial nerves. There is possibly a slight —very slight, if any—paresis of the left arm and leg; no impairment of sensation. His breathing is deep and labored, thirty per minute. His arteries are atheromatous, the pulse "Corrigan," eighty per minute. Physical examination of the lungs negative. The apex beat of the heart is heaving and diffuse, and though slightly felt under the sixth rib, is strongest in the fifth interspace in the left mammillary line. The cardiac dullness reaches superiorily to the top of the fourth rib at its junction with the sternum, and inferiorly from a point one-half inch outside the left mammillary line at the fifth interspace to a point on a level therewith one-quarter of an inch to the right of the left border of the sternum. At the aortic cartilage is heard a rather short systolic and a long-drawn-out diastolic murmur, the latter of which is transmitted down the sternum. At the apex these two murmurs are slightly audible. The first sound is weak; the second pulmonic sound is not accentuated. He was given potassium iodid 4 grains, t. i. d., as a placebo.

April 17, 1895, he was very much improved. He could talk considerably better, masticate and retain his food in his mouth much better, and swallow considerably better. He was working digging trenches in the street. Very irritable because of deficient articulation. Insomnia. Continued KI. and gave sulfonal 15 grains at night.

April 19, 1895. Sulfonal had been taken not according to directions and was thought useless, as he still could not sleep; precordial distress, cardiac palpitation, and dyspnea causing insomnia, Gave KBr. 30 grains, chloral 10 grains, at bed-time; continued KI.

April 22, 1895. Called to visit patient at his house. Found him with great edema of legs, cardiac palpitation, dyspnea, precordial distress. Inability to properly talk, masticate and retain his food in his mouth, and swallow properly, had almost entirely disappeared. Examination of his urine was negative. Patient was sent to the Philadelphia Hospital.

May 29, 1895. Patient came to show how well he was. He had been in the Philadelphia Hospital four weeks. He now had no dyspnea, no precordial distress, no palpitation of the heart, no edema; could eat well, swallow well. He could also speak very well, but not so well as he did before he had the "attack."

In the course of a month or two the patient had a recurrence of his symptoms of cardiac insufficiency. From the time he left the Philadelphia Hospital he had been following his usual vocation. I again saw him at his home, and again referred him to the Philadelphia Hospital, where he shortly after died.

Although, unfortunately, we lack the confirmatory evidences of a careful post-mortem examination, the patient *intra vitam* presented a sufficiently characteristic clinical symptom-complex to justify a diagnosis as to the precise nature and location of his trouble. To recapitulate, we had a patient who for years had been subject to alcoholic excesses, and been exposed to all sorts of inclement weather. These irregularities of life and conduct at least predisposed to an arterio-sclerosis, which was certainly fully developed at the time of observation. His peripheral arteries were hard and tortuous; he had an aortic incompetency of doubtless atheromatous genesis, and it is but fair to assume that the blood-vessels of his brain were also implicated in the process. In witness of this latter fact we may adduce his momentary very severe attack of vertigo one year prior to the time of his first visit to the hospital, and his numerous subsequent attacks of more or less severity, in addition to his various mental symptoms. In usual health, then he was attacked with a labio glosso-pharyngeal paralysis. This paralysis, while somewhat bilateral in distribution, was more inclined to be irregular, but was more markedly unilaterial, affecting particularly the left side. There was a more or less severe initial implication of the motor trigeminus, the facial, the glosso-pharyngeal, the pneumogastric, the spinal accessory, and the hypoglossal nerves. The majority of these manifestations must be looked upon as indirect symptoms. They were not due to any permanent damage to the brain substance as they subsided in the course of a few days. The persistent symptoms were those due to involvement of the hypoglossal, and possibly also that portion of the accessorius which arises in the oblongata, but as the patient was very much disposed to resent any minute investigation into conditions of which he was not manifestly aware, it was impossible to carefully examine his larynx or even, satisfactorily, his pharynx. The dysarthria and diminution of the mobility of the tongue indicate the hypoglossal implication, and if we may assume some involvement of his vocal cords as partly occasioning his dyspnea and difficulty of phonation, we have evidence of involvement of the oblongatal portion of the spinal accessory nerve. We may not entirely exclude association of the vagus in the disorder, as his attacks of cardiac palpitation were much more frequent after the occurrence of the paralysis than before, but this implication is not probable. The nature of the affection precludes the possibility of its being due to disorder of the nerve trunks. We, therefore, locate the lesion about the nuclei of the hypoglossus and oblongatal portion of the accessorius.

As to the nature of the lesion, there are to be considered hemorrhage, thrombosis and embolism. It is exceedingly difficult to positively decide this question. The age of the patient and the condition of his arteries speak in favor of hemorrhage, but not so strongly as many may believe, as past the fifth decade of life, softening from vascular occlusion becomes quite as frequent as hemorrhage; and the condition of the patient's arteries was equally favorable to the formation of a thrombus as it was to giving rise to an hemorrhage. Against the supposition of hemorrhage may also be cited the fact that such occurences are much more liable to be attended by unconsciousness than is vascular occlusion. This is, of course, relative, and depends greatly upon the size of the hemorrhage. But in the locality under discussion even small hemorrhages are exceedingly apt to entail disastrous consequences, and are, further, almost always fatal. From a consideration of these facts and because we could discover no exciting cause for the production of an hemorrhage, it not being occasioned by an undue physical exercise or emotional or other excitement, we exclude hemorrhage in favor of softening. In the present instance it is almost impossible to decide between thrombosis and embolism, although we incline to the former supposition, despite the very sudden onset of the severe symptoms. The presence of the cardiac valvular lesion favors the idea of embolism, but the valvular lesion was due to precisely the same conditions that favor thrombus formation—atheroma; and embolism from valvular lesions is much less frequent in the old than in the young, and is of less common occurrence from disease of the aortic than it is from disease of the mitral valves. Supporting our supposition of thrombosis is the very manifest acterio sclerosis, and the mental symptoms of the patient during the past year or so of his life, which quite probably have their pathological explanation in numerous scattered minute foci of softening dependent upon thrombosis of minute blood-vessels.

The several nuclei of the ponto bulbar region have a distinct and demonstrable blood supply, admitting, of course, of variations depending upon individual pecularities. The hypoglossal and the accessory are supplied by a branch of the cerebral artery, the anterior spinal, a thrombosis of which artery of the right side we are inclined to believe the cause of the symptoms of the case detailed.—*Philadelphia Polyclinic.*

Transportation Arrangements for the Mexican Meeting of the Pan-American Medical Congress.—Dr. H. L. E. Johnson, 1400 L St., N. W. Washington, D.C., has been elected Chairman of the Special Committee on Transportation. All communications relative to rates, reservation in the special trains, etc., should be addressed to him.

A rate of one fare for the round trip has been secured between St. Louis, New Orleans, and other trans-Mississippi points, and the City of Mexico. It is confidently expected that this rate will be extended over the entire territory of the United States. Arrangements are in progress for a splendidly equipped special train of sleeping and observation cars, with first-class dining car service.

We insert the above, hoping it may be of interest to some of our readers who intend visiting Mexico at the time of the meeting, Nov. 16th, 17th, 18th and 19th.

EYE AND EAR.

IN CHARGE OF

D. J. GIBB WISHART, B.A., M.D.C.M., L.R.C.P.L.

Professor of Ophthalmology, etc., Ontario Medical College for Women; Rhinologist and Laryngologist to the Hospital for Sick Children; Assistant Rhino'ogist and Laryngologist Outdoor Department Toronto General Hospital, etc.

THE OPERATIVE TREATMENT OF HIGH MYOPIA.

A Discussion in the Ophthalmic Section of the British Medical Association at Carlisle.

Mr. Lawford,—The treatment of myopia of high degree by removal of the crystalline lens, is one of great and probably increasing importance, and worthy of most serious consideration. It is by no means a simple subject, but there is already, in my opinion, sufficient evidence in its favor to over-ride the arguments adduced against it, and to establish its claim as a recognized surgical procedure. The treatment has been adopted and carried out most extensively in Germany and Austria, and to a less extent in France, Belgium and Switzerland.

The degree of myopia; It is impossible to make any very definite statement on this point. A decision must involve the consideration of other conditions besides the actual number of dioptres of myopia; such as the age, health, character of myopia (progressive or stationary), and complications present, as disease of the vitreous, etc. Another, but important question is, to what extent for practical purposes, that is for school or wage earning work, vision can be made serviceable by means of glasses. The lowest degree of myopia to which this operation is applicable differs somewhat in the opinion of different writers. Some writers give 13 dioptres, others 15. There is probably no upward limit, the highest recorded is one of Schweiggers, 33 dioptres.

The alteration in the refraction resulting from the removal of the lens is very different in myopia, from that in emmetropia. The lowering of the refraction has in most cases been from 16-18D. In some of Vacher's recently published cases, where a low degre of myopia was present, the improvement in visual acuity and capability was very marked.

The age: Fukala, Vacher, etc., operated at first only upon young patients, but in the last two or three years the treatment has been applied to adults, and even up to 64 years of age with satisfactory results. There can, I think, be no serious objection to operating in childhood if the degree of myopia be sufficiently high, and the conditions are likely to become less favorable if operation be postponed.

Technique: The general opinion of writers is decidedly in favor of discission of the lens, and subsequent removal of the opaque fragments.

Iridectomy as a step in the operation has been abandoned. It may be expedient, but the value of a circular active pupil is very great in these highly myopic eyes.

Results: Unless the operation be performed where there are less than 10D, of myopia, the alteration cannot but be beneficial. In the majority of published cases, visual acuity has been increased two fold, three fold, and sometimes more, and when it has remained unaltered, the capabilities of the eye have been augmented.

For the wage-earners the acquisition of good, or even moderate, distant vision is an enormous advantage. Another point gained for these myopes is an increased range of vision for reading and other near work. The highly myopic person must either read without glasses, having the book inconveniently close to his eyes, and often sacrificing binocular vision because he cannot maintain sufficient convergence, or he must increase his reading distance by glasses, which necessarily reduce considerably the size of his retinal images, and thereby render reading difficult and tiring. The loss of the power of accommodation, which Donders thought a serious objection to this method of treatment, has proved to be no objection at all. The range of distinct vision for reading is greater and infinitely more useful in these highly myopic eyes after removal of the lens, than that which the patients previously possessed.

The evidence as to the durability of the eye, and the arrest of the myopia after this operation, is too contradictory to be of much value.

Mr. Cross submitted statistics of 1,774 cases of myopia seen in private practice, showing that cases of 9 dioptres of myopia and upwards occurred in the proportion about $\frac{1}{7}$th of the whole number.

Detachment of the retina would seem to be not less likely to follow removal of the lens from old eyes (as in senile cataract) than from young or middle-aged eyes affected with high myopia.

Clinical experience entitles us to disregard the danger in the first case, and we are justified in assuming that it may not be very pressing in the other.

In nine cases when the lens was extracted for high myopia, there was considerable practical improvement in distant vision.

Dr. Argyle Robertson had operated in only two cases, but in both with favorable results,—*British Medical Journal.*

Subacute Conjunctivitis due to a Diplo-Coccus.—Morax has found a hitherto undescribed diplo-coccus in a subacute form of contagious conjunctivitis. The disease is of slight intensity, lasting from two weeks to six months, and readily yields to an eye wash of sulphate of zinc, 1-40. The diplo-coccus resembles somewhat Friedlander's pneumococcus, but has no capsule; it takes aniline dyes easily, and is decolorised by Gram's method. It is found both in the epithelial and the pus cells, and also free. It does not grow in ordinary media, but requires the addition of blood serum, serous or ascitic fluid. It is ærobic, and does not produce any lesion in animals. Cultures were introduced into a medical man's conjunctival sac, and gave rise to this special form of contagious catarrhal conjunctivitis.—*Annales de L'Institut Pasteur.*

ICHTHYOL AND FORMOL IN OPHTHALMIC PRACTICE.—Germain finds that a 10-15 per cent. ointment of ichthyol in lanolin is very efficacious in ciliary blepharitis, curing when the ordinary yellow ointment has failed. Collyria of ½ per cent. are also very useful in phlyctenular conjunctivitis and simple catarrhal ophthalmia. The drug was well borne, soon eased the pain in the eye, and accelerated the cure. The author has also made successful trial of formol as an ophthalmic antiseptic solution. The drug is used in solution of 1-2,000, and the conjunctiva was found sterile twenty-four hours after its use. It was found useful in the treatment of phlyctenular conjunctivitis.—*Gazz. degli Osped.*

TREATMENT OF GONORRHEAL OPHTHALMIA.—Burchardt describes as follows the treatment he has found most successful in acute purulent ophthalmia of gonorrheal origin in children and adults. He formerly carried out the classical treatment of leeching, scarification of the conjunctiva, cauterization with nitrate of silver, and ice compresses. He has gradully omitted all these methods in consequence of some ill-effect they had, or because they appeared to him irrational, and he now confines himself to a very free irrigation of the conjunctival sac with a five per cent. solution of chlorine water, followed by a one-tenth per cent. solution of nitrate of silver. The head of the patient is thrown back so that he looks directly upwards; an assistant then allows the solutions to fall upon the inner canthus drop by drop, while the surgeon moves the lower lid up and down very freely with the thumbs, and the upper lid more slowly with one of the fingers. By this means he is able to clear the conjunctival sac very completely. The success of the treatment appears to lie in the very free movement imparted to the lids, whereby the fluids gain access to all the folds of the conjunctiva. Shreds or membranes are removed from the lids.—*Centralbl. f. Prakt. Augenheilk.*

IMPACTION OF CERUMEN—This should, of course, be removed by means of the syringe, sometimes rather a lengthy procedure, but which may be greatly shortened and facilitated if the plug is gently detached from the roof of the meatus by means of a small curette. For those, however, who are not accustomed to manipulate instruments in the ear, it is, on the whole, safer to soften the wax for a few days by means of such solvent drops as the following:—

℞ Sodii Bicarb.....grs. xv.
Glycerine.....℥ iij.
Aq-Destil.....ad ℥ i.

The drops for the ear to be warmed before use.

In the use of the curette, too great caution cannot be practised to avoid scratching the floor of the meatus, because this portion of the auditory canal is sometimes extremely convex, and when plastered over with even a very thin layer of cerumen, may give the appearance of a large plug of that substance, and mislead the operator, unless he is on his guard. It is to be remembered that an accumulation of cerumen is often complicated with an external otitis, giving rise to a considerable amount of pain. Fur-

ther, a form of external otitis characterized by a shedding of large quantities of epithelial scales and *débris* often leads to the formation of a plug stimulating impacted cerumen, (Keratosis Obturans). It is, however, much lighter in colour, and its separation from the walls of the meatus is extremely painful. It is difficult or impossible to remove this by simple syringing; in fact, the action of the liquid is to make the plug swell, and to increase the pain produced. The best instillation for the purpose of softening it is glycerine (to which Mr. Lake advises the addition of Salicylic acid), and after a few days of its use the plug can generally be removed by means of a blunt curette, and delicate forceps. Fortunately this condition is not a very common one, but the difficulties connected with it must be kept well in mind.—*The Medical Annual.*

Eczema of the Auricle.—When acute, this best responds to dry-dusting with such powders as, iodol, dermatol, or oxide of zinc with starch. On each occasion the part may be previously washed with weak sublimate solution. When less moist, an ointment of iodol or ammonio chloride of mercury with coal tar, is best, firm crusts being previously softened with olive oil and removed. Where there is much thickening, a weak mercurial ointment may be well rubbed in, massage being thus at the same time practised by means of the finger and thumb. Internal administration of an aperient is often indicated.—*The Medical Annual.*

Cerebral Complications in Relation to Disease of the Middle Ear.—The tuberculous from the otitis media spreads slowly and with little pain, and sometimes reaches an advanced stage without perforation of the drum membrane. The deposits formed by the disease constitute excellent culture media for pyogenic bacteria, which by such means find their way into the softened bones. This is peculiarly true in the cavity of the middle ear, where food, warmth and darkness are supplied for their growth and multiplication. The danger of conveying disease from ear to ear by means of carelessly disinfected probes is very great. The spreading of infection from the middle ear to the brain, and its membranes, is preventible. When the disease is established the surgeon must ensure its eradication. When located in the brain the focus must be removed, as well as the paths by which the disease has travelled and the part that had secondarily become infected—MacEwen.—*Lancet.*

For Neurasthenia.—The *Med. Bulletin* gives the following as a nerve tonic and sedative:—

℞. Asafœtidæ, ʒj
Acidi arseniosi,
Strychniæ sulph., āā gr. ½
Extract sumbul, gr. xxx
Ferri subcarb., gr. xl
Quininæ valerianat., gr. xx
Fiant capsulæ, xxiv. M

Sig.—One after each meal.

PAEDIATRICS.

IN CHARGE OF

J. T. FOTHERINGHAM, B.A., M.B., C.M.,

Physician to Out-door Department Toronto General Hospital; Physician to Out-door Department Hospital for Sick Children.

CONVULSIVE TIC IN CHILDREN.

DR. CHARLES L. DANA read a paper with this title. He said that he had been much interested for some time past in the spasmodic disorders of children. He thought there was still much misconception regarding the true nature of many of them. He believed that all the functional neuroses of childhood (not infancy) could be classified under four heads, viz.: (1) Chorea, (2) spasmodic tics, (3) hysteria, and (4) epilepsy. It was his object in this paper to show the relationship between two of these groups particularly. He was of the opinion that there were many physicians who did not know technically what spasmodic tic was. It consists of quick spasms of certain muscles or groups, several rapid contractions succeeding each other, after which there is a period of rest. Eventually this clonic spasm might become tonic. In most forms of the disorder there was a tendency to become localized in certain nerves, as in the facial, or in some special twig, as the phrenic, or a branch of the zygomatic or of the vagus. They might take a wider range, producing quick, violent movements of the whole body. Between this form—spasmodic tic—and ordinary chorea minor there were many milder spasms, known as "habit choreas." These were the ordinary twitchings of the face or shoulders which occur irregularly in children, and are closely allied to true chorea. When these become localized in a certain group of muscles it might be considered a true spasmodic tic, and in these cases the treatment for chorea he had found had but little effect. In 95 per cent. of the cases of chorea minor recovery took place, but it might degenerate in several different directions. For instance, a girl of twenty, when five years of age, had an attack of Sydenham's chorea, which ran its ordinary course, and was repeated at intervals of a few years. After the third attack it seized upon the larynx. From sixteen to eighteen years of age it was almost constantly present. The girl was neurasthenic and weak. In another case, that of a boy of twelve years, choreic twitchings had begun in the right side of the face, then in the neck, and then in the arm, when he was five years of age. There was no known cause for this. When first seen by the speaker the boy appeared intelligent and well nourished, and there was no evidence of cardiac or other organic disease. He had choreic movements of the hand, and the facial muscles were also involved. In addition to the unilateral choreic movements, the neck muscles were at times affected with twitchings or with tonic spasms,

which turn the head to the left side—spasmodic torticollis. The speaker said that in his own experience there had been two other cases of a similar character. Thus, a boy of ten years had had a severe attack of rheumatism, and at the age of fourteen an attack of what was apparently ordinary chorea. These were repeated every two or three years, but during the intervals he had not been in perfect health. With each return of the chorea there was involvement of other muscles until finally he developed wry-neck and opisthotonos. He ultimately developed a violent form of chorea and died of exhaustion. At the autopsy there was found a very marked meningeal thickening at the convexity of the brain, and degenerative changes in the outer layer of the pyramidal cells of the cortex, especially those involving the legs, trunk and arms. A girl, thirteen years of age, was attacked with sudden pain in the left side, and two or three days later she began to have choreic movements of the eye muscles, more particularly on the left side. When seen by him, three years later, there were choreiform movements, and she presented the appearance of a person suffering from chronic torticollis. These cases certainly show that at times the ordinary chorea minor, instead of disappearing, fastened itself upon a particular group of muscles, resulting in a spasmodic tic. This might be a tic involving the larynx, the phrenic nerve and diaphragm, or it might involve the facial muscles alone. In other cases this chorea degenerated into a tonic form of spasm, leaving the patient with some variety of torticollis, or some general tonic disorder. It had seemed to him that the following view could be taken of the pathology of these disorders: Chorea is an irritative disease resulting from some poison or infection, and is located in the cortex of the brain. On the other hand, the spasmodic tics are degenerative diseases, secondary, in some cases, to an inflammatory neurosis like chorea, or developing independently like other degenerative neuroses.

There were also special varieties of tic, such as those in which the patient suddenly uttered irrelevant or improper words. In most instances these tics began with peculiar irregular movements suggestive of chorea, but of a more co-ordinate character. This form of tic might be called a psycho-motor spasm. Henoch stated about three years ago that the cases that he had formerly described as "electric chorea" were really examples of this spasmodic tic. Neither chorea nor spasmodic tics, in the speaker's opinion, had any special relation to epilepsy.—*Paediatrics.*

ON ENURESIS AND ITS TREATMENT.—M. Mendelsohn (*Centralbl. f. d. g. Therapie*, 1896, *xiv.*, 49). Thirty-two cases of enuresis, in its narrower sense, have been observed during the last few years by M., amongst which there were only three cases over 14 years of age. Aside from the many theories held as an explanation of this form of enuresis, it is probable that in the majority of cases the shutting off apparatus of the bladder is not fully enough developed to resist the detrusor muscles when the latter are reflexly excited through the impulse of the will. A deficient development of the prostrate gland frequently accompanies this lack of development. In support of this fact we have the experience that enuresis usually occurs during sleep (enuresis nocturna), and generally during the

early hours of the night and morning; either because at this time sleep is exceptionally sound, or because the bladder is overdistended. In conjunction there may be morbid conditions through which a reflex may be exerted on the bladder, as for example rectal worms, obstruction of feces, masturbation and phimosis

For the treatment of enuresis, bearing in mind the above casual facts, the following rules are to be deduced: The forming of a habit for the regular emptying of the bladder by day or night, cutting down the quantity of fluid during school hours and in the evening. In particularly obstinate cases the little patients should not be allowed any fluids from the early afternoon, on; particularly should those be excluded which contain alcohol or carbonic acid gas. It is unquestionable that (with an equal quantity of fluid in the bladder) the later the urine comes in contact with the internal orifice of the urethra so much later will the contraction of the detrusor muscles take place. Thus is explained the obvious effect of raising the foot end of the bed in nocturnal enuresis. The bed should, after obtaining the good effects, be only very gradually lowered again to its horizontal position. Very good results have also been observed from the administration of tinct. rhois. arom. (10-15 drops frequently during the day). In enuresis nocturna one dose in the afternoon and another at night. In very obstinate cases he makes use of the well-known remedy by Trousseau, beginning with a dose of 0.005-0.01 grm. of the extr. belladonna, and gradually increasing to ten times the quantity, this to be continued for weeks or even months. Occasionally the belladonna will act better in combination with extr. nux. vom. or strychnia. Chloral hydrat is sometimes of benefit. He does not approve of the different methods of sealing the meatus, nor those means used to keep the children from a sound sleep. Local faradization of the sphincters (by means of rectal rheophors), using a medium strength of the current, also gives some good results. They are to be applied daily for 5-10 minutes during four to six weeks. It will always be of some service to follow hygienic rules, cold washings, cool sitz baths, cool bedding, gymnastic exercises and repressing a too frequent desire to micturate, as much as possible during the day.—*Pediatrics.*

PATHOGNOMONIC SIGNS OF CONGENITAL SYPHILIS.—In an address delivered before the Berlin Med. Gesellschaft, P. Silex recognizes three characteristic signs of congenital syphilis. The first relates to the eyes, the second to the teeth, and the third to the skin. As the only real pathognomonic symptom relating to the eyes, he mentions a choroidea areolaris, in which are found scattered over the fundus, particularly in the neighborhood of the macula, black points and patches, which present here and there white spots of different size, and larger areas with a black border. These represent atrophic colonies in the choroidea, and pigment patches derived from the pigment of the stroma and pigment epithelium. The retina also being involved, vision in these cases is always very much impaired. Mercurial inunctions and exhibition of potassium iodide effected no change. In a few cases the process, which is rare, remained unilateral. Of the numerous deformities of the teeth usually mentioned,

he only considers that one form pathognomonic where the permanent upper incisors present a central excavation, denuded of enamel, beginning on the surface for mastication, and continuing upward in the shape of a crescent. As a sign, which is only found in congenital syphilis, he considers the well-known scars radiating outward in straight lines, which do not confine themselves to the corners of the mouth or to the lips, but radiate further to cheek and chin. The histological examination of a case, which was particularly marked, proved that these lines are not scars in the anatomical sense, as papillae, glands and vessels were well preserved in the tissue under consideration. Very likely the peculiar furrow-like appearances, which are called pseudo-scars by him, are due to a muscular tension of the skin. These three kinds of conditions, which were demonstrated by the author both on the subject and through illustrations, are considered by him absolutely pathognomonic. So that the presence of even one of them will lead to a positive diagnosis of congenital syphilis.—*Pediatrics.*

Habitual Constipation in Infants.—Durante (*Archiv. f. Kinaerheilk,* 1896, *xx.*, 3 *and* 4, 254). There are many causes which, acting together, produce defective action of the bowels in infants. The sigmoid flexure is proportionately of much greater length than in the adult, the nervous forces also are not yet as well regulated, so the child does not feel the need of an evacuation. The infant lies most of the time in a horizontal position, very frequently it is drugged, on account of restlessness, with all kinds of medicines, and frequently opiates are used, which add to the trouble. Furthermore, the constipation may be due to other diseases—rhachitis, etc. The most important cause, however, is the feeding of the infant with food deficient in fat. The feces of the baby consists of fat and casein; it is therefore of importance that the food should contain an excess of fat, so that the necessary quantity of fat can be here produced, and through this the feces obtain their plastic condition. From a deficiency in fatty matter, the contents of the lower bowel will become dry and hard and hence difficult of expulsion. The milk of woman contains about 4 per cent. of fat, cow's milk only about 3.5 per cent. If the latter is mixed with an equal quantity of water, the percentage of fat falls to 1.75 per cent., and according to further dilution still lower. Other preparations in place of mother's milk, the different children's foods, add the difficult digestion of starch on to the absence of fatty matter, and therefore they are even worse as articles of diet than cow's milk, and readily give rise to diarrhœas following their constipating effects.—*Pediatrics.*

A new method of producing vigorous catharsis in patients suffering from mania or other mental disease, wherein an effort at oral administration would doubtless mark the inception of a struggle, is to blow a large dose of calomel into the nostril through a tube or roll of paper. The procedure is neither painful nor disagreeable, and the drug is distributed over the nasal mucous membrane, eventually finding lodgment in the intestinal tract, and operating as effectually as if given by the mouth.

The Canada Lancet

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The Largest Circulation of any Medical Journal in the Dominion.

Editorial.

THE CANADIAN MEDICAL ASSOCIATION.

The last meeting of the Canadian Medical Association was held in Montreal on the 26th, 27th, 28th August. Perhaps the best feature of the meeting consisted of the *Clinics* held at the hospitals. This was something new, and proved a welcome and practical innovation on the old method of reading paper after paper, with no illustrative cases. We venture to predict that in future meetings there will be more of the practical and less of the theoretical than has heretofore been the case. Our Ontario Association may take a useful hint from the older organization in this.

Latterly, meetings of medical associations on this continent, for the purpose of science, have been deteriorating into quasi scientific meetings, and real junketings. The management, anxious for a large attendance, has been year after year gradually adding to the list of "attractions," as our able and energetic management has been doing with the Industrial Exhibition.

We should not perhaps be surprised to see some decades hence, posters and dodgers scattered broadcast throughout the land—(for at the present rate of going in Toronto most of the people, old and young, male and female will then be doctors) with lithographs of the then La Loie Fuller, giving the *savants* assembled for scientific purposes, exhibitions of the poetry of motion, clad of course in the regular diaphanous robes of silk gauze with meshes say one inch square; or the strong woman illustrating the origin, insertion and action of various muscles; or the Martelli Sisters walking heads downward from the ceiling while instantaneous photographs will be taken with 'Z' rays showing the state of the cerebral circulation while in the pendant state—and other things equally interesting to the assembled multitude of doctors.

The practice of fêting the visiting brethren was originated in that land of enterprise across our southern border, and while it has some advantages if kept within bounds, now bids fair to do injury to the value, dignity and eventually the success of our associations.

Dr. Thorburn ably fulfilled his duties as president, and the whole meeting ran smoothly, thanks to the energy of the committee of arrangements.

The programme which we have before us was of unusual interest, and we believe the papers were up to the average. One hundred and sixty-eight members were present—the largest number yet recorded at any meeting of this Society since its inception. Next year should show an increase even on this, as the place of meeting is to be again Montreal, in conjunction with the meeting of the British Medical Association.

The Society was very happy in its choice of president for next year. Dr. Moore of Brockville is well known as a leader in the profession, a man of ideas and energy. Dr. N. A. G. Starr, Toronto, was again made general secretary. The vice-presidents are as follows: Prince Edward Island, James Conroy, Charlottetown; Nova Scotia, J. T. Black, Halifax; New Brunswick, T. Walker, St. John; Quebec, J. M. Beausoleil, Montreal; Ontario, W. W. Dickson, Pembroke; Manitoba, R. S. Thornton, Deloraine; North-West Territories, E. H. C. Rouleau, Calgary; British Columbia, Dr. Harrington, New Westminster.

THE LATE DR. HARRIS.

We feel sure many of our readers will be pleased to see our photogravure of the late Dr. Harris, of Brantford, whose recent death was very keenly felt by his numerous friends throughout the country.

The doctor was only 44 when death came. He had been in very poor health for the past three or four years, but was always about at work. Even on the day of his death he was out driving. The immediate cause of death was an apoplectic seigure, and he lived only a few moments. Dr. Harris has been a prominent figure in the profession for the past fifteen or twenty years. He was for many years representative of Trinity University in the Ontario Medical Council, of which body he was president during 1895.

Interested in military matters, he was one of the oldest officers in the Dufferin Rifles.

Following is the resolution adopted by the County Medical Association with reference to the late Dr. Harris:

The John H. Stratford Hospital, Sept. 2nd, 1896.

Moved by Dr. Philip, seconded by Dr. Heath:

"That the Brant County Medical Association, in annual meeting assembled, desire to put on record their sincere grief at the sudden removal by death of their friend and confrere, Dr. W. T. Harris, and also the deep sense of the inestimable loss sustained by the profession, not only in the city and county, but throughout the Province as well.

"The members of this Association fully recognize that they have lost from their midst one who not only through his genial disposition had possessed himself of a large share of their affections, but also one who through worth and many sterling qualities had, at a comparatively

early age, won for himself the highest office in the gift of the profession of the Province.

"A physician who, in his earnest desire for professional advancement, never lost sight of what was due his confreres, but was always ready to treat with the greatest consideration the opinions of those of riper experience, and was ever willing to extend a helping hand to the struggling graduate.

"It would be useless for us to endeavor to convey any idea of the grief felt by those of us who have had perhaps more intimate relations with the late doctor, or the loss sustained by those numbered among his patients.

THE LATE DR. HARRIS.

"This Association does, moreover, most respectfully tender to Mrs. Harris and the family of our late colleague their most sincere and heartfelt sympathy in this their hour of bereavement. The late beloved member of this family will ever hold a place dear in the remembrance of his professional brothers."

Endorsed on behalf of the Association.

(Signed) REGINALD HENWOOD,
D. LESLIE PHILIP,
HARRY R. FRANK.

IRRIGATION OF THE COLON IN CHOLERA INFANTUM.

A word may not be amiss, though the season is late, on the value of lavage, especially of the large intestine, in the summer diarrhœas of children. The advocates of lavage of the stomach in such cases are not likely to get much of a hearing in this part of the world. Parents cannot be expected to tolerate with equanimity the spectacle of an attempt to introduce a catheter into the stomach of a child already feeble and ill, no matter what confidence they may have in the physician; and in the event of an untoward ending they are very apt to employ the *post hoc, ergo propter hoc* style of argument, with very damaging results to the reputation of the attendant. In any case, it does not appear on the surface just what good is to be done, when the main trouble lies much lower down in the alimentary canal, by any such procedure. It seems to the writer that much the same end can be gained, especially if there is occasional vomiting, by giving large quantities of warm water, alkalinized if need be with bicarbonate of soda. One or two free vomitings will rid the infant's stomach effectually enough of any irritating masses. This plan has the additional advantage of checking the consuming thirst with which the little unfortunates suffer, often unrelieved unless water be specially ordered by the physician.

When, however, lavage of the large intestine is proposed, one feels that there is good reason for it. Even if colitis be not an outstanding feature of the case, good must ensue upon the removal from the absorbing *mucosa* of the colon of the decomposed and ptomaine-laden contents sent down from the small intestine. It has been proven, if proof were necessary, that the motions, no matter how frequent, come only from the lower portion of the colon, and that for each stool that escapes, at least an equal bulk of similar matter remains behind. Our own experience of the treatment leads us to feel that one is neglecting a most valuable therapeutic measure if irrigation is not done. Of course the parents must carry it out, or the nurse, and here lies the main trouble. The lay-nurse very often soon ceases to carry out instructions. A soft catheter, silk woven and softened by warm water, is gently introduced (according to the example shown by the medical man, who should do the little operation himself at each visit), as high as possible. It should be rotated on its own axis and the stream kept flowing as it goes in, when it usually passes high up quite readily. If too soft, as the red rubber soft catheter usually is, it coils upon itself in the rectal ampulla. The child's hips should be well over the mother's knee, the legs held at right angles to the body as the child lies on its back, and the mother's knee elevated to raise the child's hips and facilitate the flow down hill into the colon. The child may resist the first time, but so great is the relief to tenesmus and straining that the little one invariably settles down to enjoy it after once or twice experiencing it. The bag should not be too high, say two feet at most, above the child. Or, if a syringe is used, it should be such as can be detached from the catheter to be filled, and should be emptied very slowly and steadily. The ordinary household

syringe is dangerous because too strong and intermittent. The rule should be that after every motion the bowel must be irrigated. The frequency of the motions will be very promptly lessened. The fluid may be a solution of boric acid, at any rate sterilized water; and may be either cool for its soothing local effect, or warm if there is much flatulent distention or tormina. No one who has once employed high rectal irrigation in cholera infantum will fail to avail himself of it again in every case of any great severity, though in our opinion its routine use will bring it into disrepute as an unnecessary measure. It has seemed to the writer to be the means of saving life in more than one case in which all the other ordinary modes of treatment were also employed.

THE HEIGHT OF IMPERTINENCE.

We have received the appended circular from a firm of opticians in this city. In our opinion a greater piece of impertinence was never offered the profession than the bargain calmly proposed by these people. A reference to the city directory shows that the address of this firm is also the address of a patent medicine company, and of a "professor" or "eye specialist." *Verbum sap.*

PHILADELPHIA OPTICAL COMPANY,
87 King St. East,
TORONTO, August 25, 1896.

"DEAR SIR,—If you have not been writing prescriptions for spectacles "we would like to have you begin. You can do much good by doing so, "and it would be profitable to you. All you need to do is to write the "patient's name on the blank we send you, and we will give you one "half of what the patient pays us for the glasses. * * * *

"In the past the writing of doctor's prescriptions has been confined to "eye specialists.

"We have in our house an expert optician, graduate in optics who tests "each eye with the Javal ophthalmometer and the ophthalmoscope. If "you send your patients to us we will benefit them with glassses at a "reasonable price, and give you 50% of what they pay us. This will be "all clear profit to you and you get credit of prescription. * * * *

"Hoping you will give us a trial, we remain yours truly,

"PHILADELPHIA OPTICAL CO."

Could a more corrupt offer be made?

"COLD AIR IN THE TREATMENT OF CONSUMPTION."

At the last meeting of the Canadian Medical Association at Montreal, Doctor Playter, in his paper on the above subject, first referred to the two principal causes of phthisis, the seed and the body soil. By nearly all physicians the bacillus was recognized as a cause, but a number of

them believed it to be but a consequence. The truth lay between the two views. The bacillus would not grow and multiply in the body unless the tissues were in a defective, practically *diseased* state; but it is indispensable to the formation of tubercle. The diseased state, Dr. Playter claims to have clearly shown in his recently published book, is caused by toxines produced by accumulations of the waste products of combustion, due to defective respiration. Hence more out-door air is the universal first remedy. The bacillus is probably, originally, a benign organism, and like some other microbes is rendered virulent and pathogenic by its environment. In some phase it may grow in the open air, like the bacillus anthrax, completing its "developmental cycle" outside the animal body, although, as a bacillus, flourishing best at a temperature above 100° F., as in bovine animals, or a "feverish" lung. In treatment, the Doctor depends on a "trinity of remedies":—pure cold air, nourishment in accordance with the digestive and assimilative powers, and attention to the skin to aid the respiratory function. Pure, dry, cold, sparkling, sunny atmospheric air, with its highly vitalized oxygen, is best of all remedies, and nearly all cases improve under it. At the Falkenstein Institute (Germany) the cold winter air allowed to flow through the bedrooms of the patients all night "quiets the cough, lowers the fever, arrests the night-sweats, restores the appetite, and retards the course of the disease." The colder the air, the better; the more oxygen it contains, bulk for bulk; the more it acts as an antiseptic; the more it expands when it has been inspired and in expanding dilates the air cells or chambers of the lungs; and the more it must tend to cool the overheated lung tissues, rendering them less favorable for the multiplication of bacilli. Dr. Playter is making preparations for rendering pure, filtered air cold by means of a freezing mixture, to be inhaled by patients at his sanatorium.

New Clinic.—We are pleased to hear that Dr. Meyers has begun a clinic for Diseases of the Nervous System at the Simcoe Street Dispensary, where he will see any indigent patients suffering from nervous diseases that the profession may care to refer to him at 1.30 p.m. every Tuesday.

Dr. Irwin, Li Hung Chang's physician, is a genial and talented Irishman. Just as he left Netley eighteen years ago he heard of a good opening for a doctor at Tein-Tsin, so he turned him cheerily to the Flowery Land. In 1879 he was called in to attend a serious case in the Imperial Yamen. His patient recovered, he was appointed Chief Physician to the Viceroy and the Viceroy's family, and ever since his lot has been a happy and prosperous one.

Sanmetto in Affections of the Genito-Urinary Tract.—Dr. Robt. Park, M.D., 288 Argyle St., Glasgow, Scotland, says: "I find in Sanmetto an extremely elegant preparation, and one very effectual in remedying those medical affections of the genito-urinary tract for which it is especially designed. I was particularly pleased with its successful action in a case of irritation of the bladder neck, and frequent micturition and incontinence in a young adolescent female."

The Canada Lancet.

VOL. XXIX.] TORONTO, NOVEMBER, 1896. [No. 3.

A CASE OF SEPTICÆMIA WITH ENDOCARDITIS COMPLICATING GONORRHŒA; RECOVERY.*

BY H. B. ANDERSON, M.D., TORONTO.

Professor of Pathology, Trinity Medical College; Pathologist to the Toronto General Hospital.

The present case presents no points of special interest, unless considered from an ætiological point of view, illustrating, as it does, one of the less frequently described complications of gonorrhœa.

R. W——, æt. 23. Patient was a strong, robust young man. Had always been healthy. His father had suffered from heart trouble.

Patient contracted gonorrhœa Jan. 10th, 1896. The disease ran an ordinary course until February 2nd, when a mild attack of epididymitis and orchitis developed. This was accompanied by chills, frontal headache, general pains throughout the body and limbs, furred tongue, etc.

These symptoms, except the chills, continued, and on February 4th he had severe vomiting, being unable to retain anything on the stomach, He was first seen by the writer on February 5th. His temperature was then 102½, pulse 86. He had headache, and general pains, furred tongue, and was very nervous and restless. The general disturbance was quite out of proportion to the local condition in the testicle. Suspecting some other trouble, a thorough examination of the patient was made.

The heart and lungs were normal. The spleen was not appreciably enlarged. There was no localized pain or tenderness in the abdomen or elsewhere, except in the testicle. No eruption was present on any part of the body. The joints were unaffected. No diarrhœa or tympanites was present.

The urine was examined with negative results, except for the presence of pus, and a small trace of albumen from the urethral discharge.

The patient's condition remained much the same for the next three days, temperature reaching about 101⅖ in the evening, with morning remissions, but no additional local trouble manifested itself.

On Sunday night, Feb. 9th, the temperature rose to 103, and on Monday night to 104⅘; pulse, 108; respiration, 36.

The tongue was still slightly furred and reddish, with a tendency to dryness.

* Read before the "Toronto Clinical Society."

Physical examination now revealed a distinct systolic murmur at the apex of the heart, and another systolic murmur at the base, traceable into the neck. The lungs and other organs gave no physical evidence of disease. The evening temperature remained in the neighborhood of 104⅘ for three days, when it fell to normal, rising to 101⅘ in the evening, for the next five days, when it finally dropped to, and remained, normal. Co-incident with the falling of the temperature, the other symptoms improved, and he was discharged from the hospital, February 23rd, 21 days after the development of the orchitis. When last examined, in April, the testicle was somewhat hard and swollen and the heart murmurs still remained.

Pathologically considered, there is reason for believing that the course of the disease was as follows:—The gonococci, being first implanted in the urethra, produced an ordinary purulent urethritis, the condition being a purely local one. Later, the organisms, gaining entrance to the blood stream, were carried by the circulation throughout the body, producing a mild form of septicæmia, as was evidenced by the chills, rise of temperature, general pains, headache, vomiting, etc., with no local condition sufficient to explain them. Some of the organisms were deposited in the testicle—a part peculiarly susceptible to their action—and an epididymitis and orchitis were produced. Still remaining in the circulating blood, the same infective agent set up the endocarditis, and the development of this complication was accompanied by an aggravation of all the symptoms as described. As the system finally succeeded in ridding itself of the invaders, the symptoms improved and the patient recovered.

It may be objected that this statement of the case is purely hypothetical, as the actual presence of the gonococci in the blood stream was not demonstrated.

The symptoms, moreover, might have been produced by streptococci or staphylococci, as it is well known that a mixed infection frequently occurs in gonorrhœa.

The report of any case where recovery takes place, must, of necessity, lack in the detail and accuracy of demonstration that is possible in cases that come to necropsy, and we are often forced to fall back on clinical evidence for our proof, which is, unfortunately, not absolute.

Admitting the force of the objections, the case, nevertheless, exemplifies the fact that gonorrhœa, far from being—as the laity usually regard it—a comparatively unimportant local inflammation, is an infective disease, not infrequently accompanied by the most serious constitutional symptoms.

There is now abundant, indisputable evidence that, under favorable conditions not yet understood, general infections of the system by the gonococcus do occur. The organism has repeatedly been found alone in the exudation into the joints in gonorrhœal rheumatism, and the only means of reaching there from the urethra, is through the blood stream.

Steinon has reported a case of gonorrhœal cerebro-spinal meningitis in a young man.

In the *American Journal of Medical Science*, Sept. 1893, Councilman relates a case of acute myocarditis with hæmorrhage into the pericardium,

secondary to gonorrhœa. There was also a purulent exudation into the knee joints, and associated with all these lesions he found organisms which he considered were gonococci.

Leyden has reported a case of chronic gonorrhœa with arthritis, which terminated by the development of an ulcerative endocarditis. In the exudation on the cardiac valves, organisms corresponding to gonococci were found. In a review of the literature of the subject up to date, he says that some of these cases run a chronic course and are partially cured, while others end fatally.—(*Deutsche Medicinische Wochenschrift*, Sept. 21st, 1893.)

A case has been reported by Bordone-Affreduzzi, where a young girl was assaulted by an individual with gonorrhœa. Some days after, she developed a polyarthritis, and later a double pleurisy, with symptoms of endo and pericarditis. Cover slips from the pleural exudate showed organisms not to be distinguished from gonococci, which conclusion was afterwards confirmed by cultures.—(*Gazette Medicale de Paris*, Oct. 5th, 1895.)

Thayer and Blumer (*Archives de Médicine Experimentale*, Nov. 1895) publish the report of a case of gonorrhœal septicæmia with ulcerative endocarditis, in which gonococci were isolated from the blood stream during life, and were found in, and cultivated from, the vegetations in the cardiac valves post mortem.

The literature of the subject contains many other cases; so it may now be taken as an established fact that general infection of the system, causing grave lesions in distant parts of the body, may supervene during the course of an attack of gonorrhœa, producing the most serious symptoms, or even fatal results.

AN APPENDIX ABSCESS PERFORATING THE DIAPHRAGM, AND DISCHARGING THROUGH A BRONCHUS, ALSO PERFORATING AN INTERCOSTAL SPACE.

BY ALEXANDER M'PHEDRAN, M.B.

Associate-Professor of Medicine and Clinical Medicine, University of Toronto, etc.

Adam G., aged 40. An agent. Of good personal and family history. On January 1st, 1895, he had an attack of colic, the pain being in the right inguinal region, extending towards the umbilicus, and lasting about one day. In two or three days he felt as well as usual, and remained so until February, when he had a second and more severe attack, from which he did not fully recover. He was conscious of discomfort in the inguinal region; there was a tendency to stoop towards the right side, and jarring was unpleasant, if not painful. He is not certain as to the existence of swelling or induration at this time, but in March, he says, a well-defined tumor had formed.

In April he had a third attack of colic, more severe than the previous ones, and with this there was a local swelling and considerable general tympanites. He improved gradually, and the tumor grew smaller. In

May he was able to be out a little, but was weak and had lost considerable flesh. About the middle of May, the swelling in the right inguinal region began to increase again. There was a feeling of dragging in the right side, and he walked so as to save his side from strain and jarring.

On June 10th he coughed excessively all night, and spat up a profuse quantity of most offensive dark, and rather thin, pus. Since then, on lying down, the cough has been severe and the expectoration free. When in the erect position, hacking cough is troublesome, but the sputum is comparatively scanty.

Since the cough began, a circumscribed tender area, about two inches in diameter, appeared below the angle of the scapula on the right side. For some weeks there has been some pain in this region, beginning gradually, but never severe. He noticed that this swelling became fuller on lying down. There was no shortness of breath. His appetite had been fairly good; bowels regular.

On June 29th, 1895, when he first consulted me, his condition was one of extreme emaciation and great weakness. The breathing was quiet; there was frequent short, hacking cough, with offensive sputum, consisting of pus mixed with glairy mucus.

Below the angle of the right scapula was the swelling already referred to—it was tender and fluctuating. The examination of the chest, apart from the immediate neighborhood of this swelling, was negative, except for the presence of an occasional mucus rale on both sides. Around the swelling the percussion note was flat, and the breath sounds were faint.

The abdomen was flat, a little fuller on the right side, where a tumor-like mass could be felt, extending from the level of the ant. sup. spine of the ilium up nearly to the costal margin and from the umbilicus, outwards to one inch outside of the mammary line. Over this mass it was dull on light percussion; deep percussion gave slight tympany. The lumbar region was normal.

Urine normal.

Pulse, 110; T. 98°; R. 22.

The case was evidently one of abscess in abdomen, almost certainly resulting from appendicitis. The pus had made its way over the liver, through the diaphragm, and thus found vent by way of the bronchial tract. Secondarily, it had penetrated the eighth intercostal space forming a subcutaneous abscess. To give exit to this pus, and with the hope of giving a shorter way of escape to all the pus, and thus relieve the bronchi of the irritation, and the patient of the necessity of coughing up such horrible material, a free incision was at once made into the abscess. Two ounces of stinking pus, of the same character as that being coughed up, was discharged.

The effect of this incision was all that could be hoped for. There was a free discharge of pus that night; he slept well and had no cough. An operation on the abdominal abscess was advised, and he entered the Toronto General Hospital next day, June 30th, 1895, for the purpose of having that done. During the next few days he improved so well, that operative interference was delayed, in order that he might gain some strength to enable him to stand the operation better. On July 3rd his

temperature rose to 101½° and his improvement not continuing satisfactorily, further delay was deemed inadvisable.

For the remainder of the history I am indebted to Dr. Lambert, of the House Staff.

July 6th, Dr. I. H. Cameron, assisted by Dr. A. Primrose, opened the abdomen outside of the right rectus muscle. The opening entered the abscess cavity, which was irregular, and extended upwards over the surface of the liver, a probe passing up to the opening in the chest wall at the eighth intercostal space, although it could not be felt at this point, but water passed out at the chest opening on irrigating the abscess cavity. He recovered fairly well from the effect of the operation, and progressed favorably for a week. The discharge was abundant at first, but grew less in quantity, and the odor less offensive. At the end of a week he was seized with sudden pain and became collapsed, the abdomen became tympanitic. Death occurred on the 15th of July. There was no autopsy. There is little doubt, however, that the abscess opened somewhere into the general peritoneal cavity.

THE PATHOLOGY OF ITCHING AND ITS TREATMENT BY LARGE DOSES OF CALCIUM CHLORIDE, WITH ILLUSTRATIVE CASES.—After presenting very fully the symptoms and characteristic phenomena of pruritus, the author enlarges upon the success he has attained in the use of calcium chloride in the treatment of this most troublesome affection. It has been shown that this drug has a very marked effect on the blood,—namely, increasing its coagulability. The distinct success the author has met with in thus relieving primary pruritus confirms the idea that the irritated state of the nerve-endings and fibrils which exists in this complaint, manifested by itching and tingling, is due to some change in the quality and composition of the blood. The paper is accompanied by a very elaborate table of cases thus successfully treated, with the remedies previously used without effect. In each case either a cure was made or great benefit obtained. The doses must be considerable—not less than twenty grains three times a day—and should be gradually increased; thirty or even forty grains have often succeeded where less have failed. As thirst frequently follows the administration of the drug, it is best to cover the salt taste with a drachm of tincture of orange-peel and one ounce of chloroform-water, in which form it is really an agreeable medicine, and would be well borne by children. The diet during its use should be restricted, no beer, sugar or sweets being allowed, and meat only in moderate quantity. The recovery in some cases was retarded by neglecting this. The bowels should also be kept freely active. Although improvement is generally noted after the first dose, recovery sometimes does not take place until the blood has become saturated, the dosage being increased until this is accomplished. Upon recovery the dose should be gradually, not suddenly, reduced; in fact, the treatment should be continued for from one to three weeks after all symptoms have disappeared. In a few cases of long duration relief was obtained only during continuation of the drug; but a cure is more than probable, with persistence, even in these.—*International Medical Magazine.*

SURGERY.

IN CHARGE OF

GEO. A. BINGHAM, M.B.,

Surgeon Out-door Department Toronto General Hospital; Surgeon to the Hospital for Sick Children. 68 Isabella Street.

INJURIES OF BONES INTO JOINT CAVITIES.

BY STEWART L. M'CURDY, A.M., M.D., PITTSBURG, PA.

Compound fractures of bone into joint cavities or compound dislocations, if given thorough treatment at the time of the accident, are almost as promising as simple fractures into joints.

In some cases, indeed, it is an advantage to have the joint open, so that the serum in abnormal quantities, blood clots, fragments of bone, injured cartilages, as in the knee, may be removed.

In the treatment of fractured patella, it is now the practice to remove the synovia between the fragments by aspiration or to make an opening below the patella to allow the fluid to escape.

Compound dislocations and compound fractures into joints, if they are treated without suppuration, generally recover with functionally useful joints. Suppuration following such injuries, on the other hand, destroys the synovial membrane and limitation of motion must be expected. Some cases recover with true ankylosis or bony union, and others recover with firm fibrinous or false ankylosis. The latter class of cases can generally be improved by passive motion.

Passive motion should not be instituted until all inflammatory symptoms have subsided and sufficient time has elapsed to insure firm bony union. In other words, passive motion should be discarded and *brisement force* should be adopted. It is criminal meddlesomeness to practice passive motion as we are told to do in the majority of text-books.

This has been my practice for years.

At the last meeting of the American Orthopedic Association, Dr. Ansel G. Cook, of Hartford, Conn., discusses this subject at length, and summarises by saying:

1. That bony or serious fibrous ankylosis is the result of injury and subsequent inflammation and not of immobilization.

2. That early passive motion only disarranges the fragments of bone, thereby increasing the production of callus; that it irritates the injured ligaments, and by increasing the inflammation, tends to produce the ankylosis it is thought to prevent.

3. Immobilization is useful only when active inflammation is present, or until the ruptured ligaments or broken bones have thoroughly united.

4. The logical treatment of a fracture into a joint, therefore, should be est and local applications to reduce inflammation; reduction of the frac-

ture as early as possible, then immobilization until the bones and ligaments are united (from three to eight weeks or more, according to circumstances).

5. Passive motion, massage, and use until the tissues become normal, or if massage fails, complete rupture of all adhesions under an anæsthetic. The factors which will ultimately determine ankylosis, are the nature of the original injury, the character and duration of the subsequent inflammation, the destruction of bone and cartilage, cicatricial contractions of the soft tissues around the joint, and the age and condition of the patient.

Case 1. C. W. Fracture of olecranon, sent to me two days after the injury, by a surgeon, with arm dressed at right angle. It was at once dressed in complete extension, and kept there for seven weeks, when the splint was removed, and in another month the arm was perfect. Patient returned to his former occupation as locomotive engineer.

Case 2. J. H. P. Fell from a moving train and received fracture of olecranon, quite similar to the preceding case. The physician who gave temporary relief, had the arm dressed at right angle. I dressed it in complete extension and kept it there for six weeks, when the dressings were removed, and in ten weeks the patient returned to his former occupation as railway conductor, with a perfect arm.

The common practice of the average practitioner of applying dressings in fractures into the elbow joint, with the arm in a position of flexion, is a great mistake.

Allis made a masterly advance when he advocated complete extension for the treatment of all cases of fracture into the elbow joint.

Extensive injuries into joints may recover with fair usefulness.

Case 3. J. W. Besides receiving two scalp wounds seven or eight inches long, sustained a fracture of the left humerus at two points and a compound fracture of the head of the radius, with about half of the articular surface of the bone detached. He also had a fracture of the ulna of the same arm, and a fracture of the right fibula. An occasional dressing was made of the various wounds. The arm was dressed in extension and was kept in that position for about six weeks. Union of all these numerous fractures was prompt, and the patient returned to the coal mine in six months as a full hand.

Case 4. G. L. G. Had his right foot caught under a large stone as it was being lowered by a derrick. The great weight was received on the outside of the foot gradually, and another stone nearby held the leg almost perpendicular. When the member was examined, a complete compound dislocation between the astragalus and os calcis was found. The foot was turned out at right angle with the leg, the astragalus protruding completely through the wound.

Amputation is advised in such cases, and if the preceding case had been taken into account, would have been demanded. It was thought best to make an effort at reduction, and if it was then found that the blood supply was not entirely destroyed, an effort would be made to save the foot. After washing sand, etc., from the astragalus, and as near as possible securing antisepsis, reduction of the dislocation was accomplished.

It was quite a task to make reduction, and it was only accomplished by using a very heavy bone elevator as a sort of pinch bar, over the astragalus and under the os calcis, thus throwing the margins of these bones free. After a long siege the wound was entirely healed. The ankle was ankylosed, but otherwise the foot is quite useful.

I might remark at this time that the ankle motion is not necessary to graceful locomotion.

Case 5. J. L, aged 24, a brakeman, suffered a compound dislocation of the second joint of the left middle finger, the joint surface being plainly visible. This wound was closed under antiseptic precautions and healed promptly without infection. In two months motion was perfect.

Case 6. M. B., aged 50, was walking along the railroad, and a train backed up and knocked him down between the rails, the entire train passing over him. The arm being flexed, the elbow was caught under a wheel and the entire joint crushed, except the head of the radius. I saw the case in a few hours in consultation with Dr. Grove. As the circulation appeared good, I decided to remove the detached pieces of bone and trim up the lower end of the humerus and upper end of the ulna, drain and close the wound. The injury occurred on Monday, and on Friday the drainage tube was removed, and on Saturday, the eighth day, the next dressing was made, and this was renewed once per week. The skin that was destroyed by the wheel, came off as a dry slough. The wound healed promptly without subsequent complication. One year after the accident, the arm is almost as useful as before the bones were removed. With the arm hanging down, the forearm can be fixed to a right angle. He is now working at his former occupation as a trackman, and suffers little inconvenience, The exact drawings of the bones removed are shown in Figs. 1 and 2.—*Int. Jour. of Surgery.*

Figure 2.

Figure 1.

A heaping tablespoonful of washing soda to a quart of water, is the proper proportion for the solution in which instruments should be boiled for sterilization. *Do not* boil non-metallic sutures in this liquid, for it will very greatly weaken them. *Do not* boil an aluminum instrument in this liquid, for it will be corroded and completely ruined. Silk sutures and aluminum instruments may be sterilized by boiling in five per cent. carbolic.

STRICTURE OF THE RECTUM.

BY R. W. STEWART, M.D., PITTSBURGH, P.A.

The following case presents some unusual difficulties in treatment, the method of overcoming which may prove instructive.

Mrs. E. S. was referred to me for treatment by Dr. Mercur. She gave a history of having suffered for six or seven years from constipation. She had previously suffered from ulceration of the rectum, which was probably of syphilitic origin, although no history of syphilis could be obtained. About a year and a-half ago, her uterus, tubes, and ovaries were removed *per vaginum*, partly under the supposition that the constipation she was suffering from was due to the pressure against the rectum of a retroflexed uterus. Her general health improved after the operation and she gained in weight; but the constipation remained unrelieved; in fact, steadily increased so that an evacuation of the bowels was an operation that required all the tact of the patient, and all the resources of the materia medica.

An examination showed a stricture, caused by a cicatricial deposit on the right anterior portion of the bowel. The stricture was situated about four inches from the anus, too high for the finger to be inserted into it, although by bi-manual examination an ill-defined mass could be touched with the tip of the finger. This mass was composed partly of the cicatricial tissue referred to, and partly of a fecal accumulation that was lodged above the stricture.

By no manner of means could a bougie, either rectal or urethral, be insinuated through the stricture. An attempt was made, with the aid of a Kelly speculum and headlight illumination, to pass a bougie, but this attempt, like its predecessors, failed.

After all hopes of penetrating the stricture by this means had been abandoned, the only alternative that presented itself was by operative interference, to which the patient readily assented.

In considering the operative procedure to be adopted, there seemed but two courses to pursue: first, to attack the stricture directly by a Kraske's operation, or some modification of it; but as this would probably be followed by a fistulous tract, and the subsequent treatment in maintaining the patency of the bowel would be tedious, I decided on the second method, namely, to bring down the sigmoid flexure and form an anastomosis between it and the rectum at a point below the site of the stricture thus eliminating the diseased portion of the bowel from functionating, by diverting the feces from their natural channel. I fully realized that the necessary manipulations would have to be carried on in the deeper portion of the pelvis, but by using the Murphy button the difficulty did not seem to be great.

Accordingly, on April 16th, the patient being in the Trendelenberg position, I opened the abdominal cavity by a median incision and drew the sigmoid flexure out of the wound. A point was then selected where this portion of the bowel could be approximated to the rectum, and was opened sufficiently to admit one-half of the Murphy button.

An assistant then passed into the rectum the other half of the button, so held by a long pair of forceps that it was adjusted in proper position to the anterior portion of the rectum immediately below the stricture. This part of the button being felt within the pelvis, an attempt was made to incise the rectum immediately over it in order to complete the anastomosis. Before making this incision it was observed, as should have been anticipated, that the cul-de-sac of Douglas had been obliterated, by the previous removal of the uterus and that the bladder lay in intimate apposition with the anterior wall of the rectum; in fact was so adherent that the separation of the two was impossible. For this reason it was feared that the incision of the rectum might transfix the overlying and adherent bladder, and this is just what happened; the incision over the projecting button permitted the escape of about half an ounce of urine into the pelvic cavity. The bladder wound was immediately sutured, and, as the location of the stricture did not permit of the higher apposition of the button within the rectum, the futility of attempting to complete the anastomosis was apparent.

I was now forced to consider the formation of an artificial anus, but as the patient's consent to this disagreeable operation, with its disgusting discomforts, had not been obtained, I temporized by closing the opening I had made for the Murphy button in the sigmoid flexure, and then fastening that portion of the bowel to the incised parietal peritoneum in such a manner that it lay immediately beneath the centre of the abdominal wound, the latter in turn being closed, with the exception of its central portion, which was plugged with iodoform gauze down to the sutured portion of the underlying sigmoid flexure.

On the following day, the situation having been fairly laid before the patient, and her consent to the formation of an artificial anus having been obtained, the iodoform plug was removed, the surface of the exposed bowel was painted with cocaine and opened by removing the sutures of the day before. Through this wound the contents of the bowels found an avenue of escape, and the patient was immediately relieved of a distressing flatus.

On the following day an attempt was made to pass bougies through the stricture by passing them into the bowel at the abdominal opening, and then downward into the rectum; this attempt, however, failed. A stout silk thread was then passed into the bowel, one end, however, being fastened by adhesive strips to the skin of the abdomen, and a cathartic administered, in the hope that the string would be carried through the stricture; this also failed; then a string, weighted with a small revolver bullet whittled to the diameter of a slate pencil, was tried; a cathartic was again administered and we were rewarded by finding, on the following day, the bullet with the attached string, lying immediately above the internal sphincter.

The two ends of the string, one of which projected from the abdominal opening and the other from the anus, were tied together to prevent the escape of the string from the bowel.

It was now a comparatively easy matter to tie urethral bougies, beginning with the small sizes, to the silken circuit that had been established, and draw them up by way of the rectum through the stricture and

out of the abdominal opening. By this means, in the course of about ten days, the stricture was gradually dilated so that the largest bougie would readily pass, when rectal bougies were passed in a similar manner. The dilatation of the stricture was materially assisted by the friction and constant opposition of the string against the stricture over which it passed, on account of the flexion of the bowel at an angle, so that the string practically sawed through the stricture.

When the stricture had been dilated so that a bougie about forty mm. in circumference could be passed, it was found that bougies could be passed *per rectum*, without the aid of the string. The latter was then removed, and the abdominal wound permitted to close. In the meantime, formed movements began to pass *per rectum*, and but little escaped from the artificial opening.

On May 22nd, six weeks after her admission to the hospital, the patient was discharged, with the instruction to continue the use of the large sized rectal bougie which she was then using. At this time she had regained her health, the abdominal opening was but a mere sinus, and her bowels were moved with but little difficulty.

Seven months later (November 16th) she reported at the office. At this time she said she was enjoying better health than for many years before; the abdominal sinus had closed soon after leaving the hospital; a large rectal bougie passed with the greatest facility; she rarely required a cathartic to move her bowels; and altogether she was well-pleased with her condition.—*Med. and Surg. Reporter.*

SURGICAL HINTS.

Surgical operations put off until too late are of very frequent occurrence. Operations performed *too early* are so rare that one never hears of them. The lesson is a very plain one, operate in time if you wish to do all in your power to save your patient.

In peritonsillar abscess an aspirating syringe with a long needle will usually find the pus with very little pain, and will often prevent the repeated blind stabbing so annoying to the surgeon and so demoralizing to the patient

Never perform an operation without examining the urine for sugar, no matter what its specific gravity may be. If glycosuria exists antiseptic precautions should be redoubled, but the condition does not contra-indicate necessary surgical interference.

Never examine for crepitus in supposed fracture of the skull. Depression or other unevenness of surface, together with symptoms referable to cerebral injury, will enable one usually to make a diagnosis and will not jeopardize the life of the patient.

When fecal vomiting is one of the indications for surgical measures, a washing out of the stomach should precede the operation. The danger of aspiration of filthy vomited material during or after the anæthesia is most grave. This accident has cost many a man his life.

DR. EDWARD BORCK'S

SLEEVE BANDAGE FOR FRACTURE OF THE CLAVICLE.

Out of the two hundred and ninety-five cases of fractures and dislocations treated by me at my late private surgical home, from April 1, 1885, to June 1, 1893 (see report in *Medical Mirror*, October number, 1894), thirty-three cases were fractures of the clavicle; nine of these cases were adult males, of which eight were on the right side, and one upon the left side, twenty-four were children, of whom fifteen were boys, right side eleven, left side four; nine were girls, right side seven, left side two.

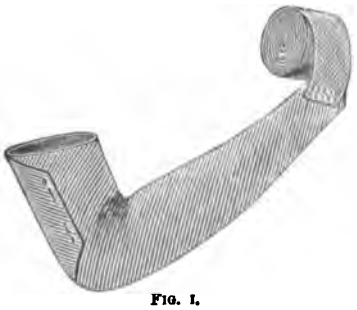

Fig. I.

The diagnosis presents no difficulty if one is acquainted with the structure and development of that bone, and has accurately in mind the articulation and the action of the attached muscles.

Fig. II Front.

I first adjust the fractured pieces in position by manipulation. (For instance the right arm.) I then lay the forearm of the injured side in the sleeve, then bring the hand towards the sound left shoulder as far up as required to keep the fragments in place, then I fasten the sleeve around the upper arm with pins; now the bandage is brought over the sound left shoulder, obliquely down the back toward the right elbow, then under the elbow, and up in front of the right arm over the fractured right clavicle and right shoulder, obliquely down the back to the left and around the chest again towards the right elbow and fastened in place. From here the bandage goes completely around the body, and pinned in front of the right arm near the elbow. Now you can see if your fracture is in correct apposition. You can pull the arm up or let it down, bring the arm to or from the body, push it forward or backward just as required. You may need a pad over the fracture or in the axilla, or you may not, as the case may be, and as your judgment dictates. With a little patience you will succeed. After everything

Fig. III Back

is in good order, fasten the bandage with safety pins wherever they cross. (See figures II. and III.) This bandage is well adapted where the fracture extends from the sternal to the acromial extremity.

When the fracture is the reverse I apply my bandage thus: proceed as before, the hand resting upon chest, the tips of the fingers toward the sound left shoulder, the bandage goes around the neck over the right shoulder, across the right fractured clavicle, down anteriorily upon the right arm and under the elbow, up on the posterior side of the right arm, again over the right shoulder and fractured clavicle, then obliquely over the right forearm, towards and around the left side of the chest, and straight over the back toward the right elbow, and here fastened. It takes about three yards of bandage one and one-half to two inches wide; if longer, it may be rolled out as in the preceding manner. (See figures IV. and V.)

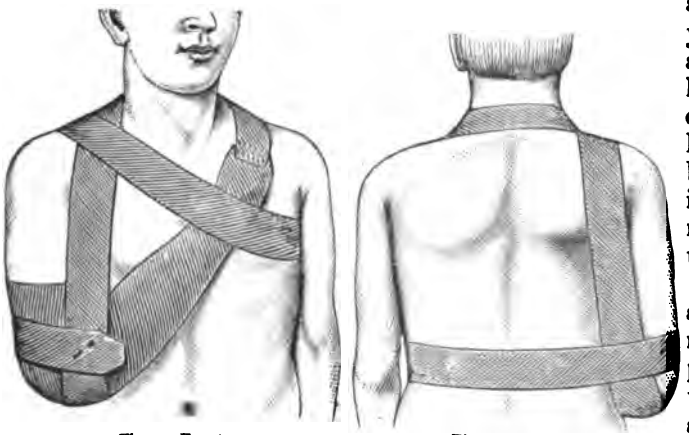

Fig IV. Front. Fig. V. Back.

The sleeve and bandage must be made of previously washed, strong and stout muslin. I always keep a dozen on hand for immediate use. This is light, comfortable and easy to manage, can be readjusted without removing the apparatus and without disturbing the fracture, the hand cannot slip, but still has motion, and the arm can occasionally be relieved of an uncomfortable position, etc., etc. It has many advantages over other appliances and has served me well.

Where the displacement is great, a splint can be be applied direct to the fractured clavicle, in persons that are lean and the bone very prominent as follows:—Take a piece of Hood & Reynolds' dental modelling composition, soften in hot water, flatten it out to a proper thickness, and cut into a strip the length and breadth required, soften again in hot water and dry with a towel, then press or mould it firmly over the clavicle while holding the parts in apposition, exhausting all the air, it acts like a cupping glass, it will stay and not irritate the skin. Apply the sleeve bandage. In children there will be complete union in twelve to eighteen days, in adults from thirty to forty.

BRONCHITIS OF THE AGED.—*Le Prog. Méd.*—

℞ Benzoic acid, 4½ grains.
Tannic acid, 2¼ grains.

M. For one powder. Take four or five such daily.

MEDICINE.

IN CHARGE OF

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AUTO-INFECTION FROM THE INTESTINAL CANAL

BY S. G. GANT, M.D.

As I understand it, auto-infection from the intestinal canal means that pathological condition resulting from the absorption of poisons generated within it. It matters not whether they are the result of chemical, putrefactive or fermentative changes, or bacterial action.

That the organism might be poisoned by the products generated within it was until quite recently looked upon with skepticism. To-day we are forced to admit that such a thing is of common occurrence. Recent investigators have given abundance of proof of poisons generated within the colon, and further that the various organs of the body—the brain the liver, the lungs, the kidney, etc.—are frequently invaded by the bacillus coli communis and other micro-organisms and some pathological condition induced as a result thereof. They have gone a step further than this and demonstrated the fact that toxic substances that are disease-producing independent of bacterial action, are being constantly formed within us in health.

As regards auto-infection from the intestinal canal, we have as yet very little proof of the absorption of poisons from this source, or as to the manner in which it occurs. Many of our best clinicians express themselves as believing that the cause of many diseases, the pathology being obscure at present, will be explained when we become more familiar with the part played by the contents of the human sewer.

Bouchard well says, "The organism in its normal, as in its pathological state, is a receptacle and laboratory of poisons. Some of these are formed by the organism itself, others by microbes, which either are the guests, the normal inhabitants of the canal, or are parasites at second hand, and disease-producing."

Because of this fact we may become intoxicated on one hand from the alkaloidal poisons formed during digestion, and, on the other, as a result of unusual activity of the bacteria—the normal inhabitants of the intestinal canal—and their ptomaines. As we become more familiar with the almost innumerable poisons within us, and their effects when injected into the lower animals, we are forced to admit that we are constantly tottering on the brink of self-destruction, and that we only need to dis-

obey some of nature's laws to upset the equilibrium and to fall a prey to some one of these poisons. Our Creator, however, foresaw all dangers and provided us abundantly with safeguards with which we can destroy or neutralize the poisons, on the one hand, or throw them off, on the other, as soon as they are formed.

It becomes apparent, then, that for auto-infection to take place, two things are essential:

1. There must be an impairment of physiological action somewhere.
2. That poisons are being constantly formed in us in health.

In the physical system every cell has a duty to perform, and the same can be said of those aggregations of cells which we call organs. Impair or destroy a single one and the economy suffers, and the effect is in proportion to the importance of the work normally alloted to it. Now, if from any cause the liver, the lungs, the skin, the kidneys or the blood should get out of order and fail to perform its function, what is the result? Poisons that are being constantly secreted are not being rendered harmless, on the one hand, or are not being thrown off on the other, but are allowed to accumulate and enter the circulation (possibly lymphatics), and are distributed throughout the body, causing local or systemic infection, as the case may be.

It is at times very difficult to determine, in cases of auto-infection, where health leaves off and disease begins; this is because of the fact that, on the one hand these poisons are physiological factors, and, on the other, as soon as the system becomes susceptible, they become active pathological factors.

Perhaps the most frequent and immediate cause of auto-infection is "constipation," and more especially when complicated with fecal impaction. In the latter case we have the retention of the feces for a variable length of time; as a natural sequence effete matters accumulate in the bowel and by remaining, undergo chemical changes, and poisons of the ptomaine and leucomaine classes are formed, which are as active as any poisons that could be introduced from without, as, for example, typhoid fever and cholera, wherein the bacillus runs its entire course in the intestines. This condition also favors the rapid growth of septic micro-organisms within the intestinal canal.

Next to constipation as a cause comes diarrhœa, for liquid stools render soluble and distribute the poisonous elements contained therein to any exposed points of the mucosa, thus insuring their entrance into the circulation.

As a result of the accumulation of poisons, we have systemic infection induced; it may or may not run a chronic course, depending on the removal of the offending mass. If nothing is done to prevent the formation of poisonous products, they soon manifest themselves in the clinical pictures with which we are all more or less familiar—chlorosis and anemia.

For the sake of illustration let us study the phenomena in a case of extreme intoxication from the intestinal canal to ascertain its effect upon the various systems and skin.

The Circulatory System.—As a result of auto-infection we have a disturbance in the circulation; the cutaneous vessels become contracted, thus

throwing an increased amount of blood into the central organs, and the body's equilibrium is interfered with. The pulse may be slow and full, on the one hand, or rapid and feeble, on the other, depending on the extent of the intoxication and its influence upon the muscular fibres of the heart and upon the nervous system. Frequently the heart is very excitable and patients have fainting spells. Sometimes, instead of the blood being retained in the central organs, it seems to remain in the extremities and causes a dilatation of the veins. Hemorhoids are almost invariably present in those who suffer from auto-intoxication for a considerable time.

The Respiratory System.—The effects of auto-infection on the respiratory system are not so numerous as they are on the circulatory or nervous systems. Their effects are shown more quickly and in a more aggravated form when the intoxication is complicated with some lung trouble; and *vice versa*, all lung diseases become markedly worse when there is systematic intoxication, for there is deficient oxygenation of the blood. It would appear, from recent investigations, that the colon bacillus plays an active part in the causation of some forms of pneumonia and empyema, but more frequently when there is a lesion of the intestinal mucosa.

The Skin.—The skin shows the effect of the intoxication in its pale, muddy, unhealthy color, foul-smelling secretions, and in any one of the many skin diseases.

The Nervous System.—When there is auto-infection to any great degree it manifests itself in some of the many nervous phenomena that we see so frequently in our every-day practice. One of the most frequent manifestations is a feeling of drowsiness, due to the effects of the absorption of one of the intestinal gases, likely that of sulphuretted hydrogen, which is known to have a soporific effect. Though the patients feel drowsy, they are poor sleepers; they roll and toss about the bed; they are frequently awakened by horrible dreams, or find themselves wandering about their rooms. In the morning when they arise, they do not feel refreshed; but, on the contrary, they feel weak, nervous, exhausted, and find their clothing moist by a clammy, unhealthy perspiration.

I believe that a very large percentage of all headaches and neuralgias are due to auto-infection, it matters not where the pain is located. For I have many times witnessed the disappearance of the headache after the bowels have been completely emptied, without the assistance of a single dose of medicine.

As for the single germ of intestinal origin, the most frequent disturber in the neighboring and distant parts, the colon bacillus communis leads them all. This germ seems to be the king of disturbers and has been found in nearly all the organs of the body, and under circumstances that have led investigators to believe that it unquestionably has pyogenic properties. Many other germs, with known pathogenic properties, have been proven to be identical with this bacillus.

I shall not attempt to more than mention a few of the diseases in which the colon bacillus appears to be the most active agent. It has been known to manifest its presence in the following conditions:

1. Infectious diarrhœa.

2. Empyema (following enteritis).
3. Broncho-pneumonia.
4. Endocarditis.
5. Cystitis.
6. Nephritis and pyelonephritis (surgical kidney).
7. Disorders of the liver (icterus).
8. Appendicitis.
9. Peri-appendiceal abscess.
10. Perforative peritonitis (also in cases of lesions of the intestine without perforation).
11. Laparotomy wounds.
12. Strangulated hernia (in fluid of).
13. Peri-rectal abscess, etc., etc.

A casual glance at the above diseases in which this germ if known to be an etiological factor is sufficent proof of its having pathogenic and pyogenic properties. Until quite recently it was supposed that this germ did not enter the circulation and produce disease in distant parts unless there was a lesion of the intestinal mucosa. We are to-day taught by such authorities as Welch, Park, Councilman and others that the bacillus coli communis is capable of entering the circulation, whence it is carried, and does produce disturbance independent of any intestinal lesion. It is quite easy to understand the way in which it reaches and affects the genito-urinary tract and the liver.

As to reaching the liver, this normal inhabitant of the intestinal canal has but to walk leisurely, as it were, up the intestine and through the door of the common bile-duct to gain access to her "Majesty's innermost chamber," causing an infection therein. It is remarkable that we do not see bilary infection more frequently than we do.

This paper has already reached a length far beyond my expectations. For this reason I will at once hasten on to the more important part of this subject—that of treatment.

TREATMENT.—I will not attempt a detailed discussion of the many remedies that have been suggested for the prevention and relief of auto-infection of intestinal origin, but will mention only the salient features.

The treatment in a large measure should be prophylactic, and every effort should be put forward to keep the system in perfect order and the equilibrium maintained; so long as this is accomplished nature is capable of defending herself against any and all toxic substances generated from the body. Any disease or symptom of disease that would predispose a patient to auto-intoxication from poisons normally generated within the body must be eradicated at once.

There are three essential features that must be constantly borne in mind in the treatment of auto-infection:

1. We must remedy any condition which predisposes the patient to self-infection,

2. We must use every possible means to prevent abnormal production and absorption of poisons within the intestinal canal.

3. We must do all we can to assist nature to neutralize and eliminate poisons already absorbed.

To accomplish the first we must correct any condition that will cause an erosion or that weakens the mucous membrane in any way, because it prepares the way for the entrance into the circulation of toxic substances within the intestine. Hence we must correct irritative discharges of all kinds; we must heal ulcers and fissures; we must remove hemorrhoids, polypi and other growths. In fact we must first get rid of any local disease of the rectum and colon present, or all our efforts directed towards the prevention and relief of auto-infection will be useless.

There are some cases in which we find no local cause; then we must look elsewhere and in all probability the exciting cause of the infection will be found to be either diarrhœa or constipation and fecal impaction—conditions that must be remedied at once. Whenever there is an irritant within the intestinal canal that promotes auto-infection, the safest plan is to give a vigorous cathartic, one of the mercurial if you choose, which will cause it to be expelled. Then we must institute a laxative tonic treatment, to be continued for a long or a short period, dependent upon the extent and continuation of the infection. Very often poisonous substances can be eliminated from the system by the constant and abundant use of reputable mineral waters known to have a cathartic action. Sometimes it will be necessary, in addition, to administer a pill composed of aloin, strychnine and belladonna, which has stood the test of time, or one composed of the lactate of iron, extract of nux vomica, and purified aloes, given three times a day. In the treatment of auto-infection it is necessary to correct errors in diet, prohibit the use of alcoholic stimulants, and have our patients take only such foods as they can digest easily. If we were going to recommend any special diet we should select milk, for experience has proven that it is opposed to all sources of intoxication and puts a check upon auto-infection due to intestinal putrefaction.

We now turn our attention to the second feature in the treatment, and endeavor to prevent the abnormal production and absorption of poisons. To accomplish this we must resort to the intestinal antiseptics, both local and systemic. Perhaps the best general antiseptics, either alone or in combination, are the iodides of potash and sodium. We have many times witnessed beneficial results from the continued use of these drugs in cases where the system was saturated with poisons. There are many medicines that are highly commended as intestinal antiseptics, such as iodine, creosote, benzoic acid, boric acid, salol, resorcin, turpentine, the mercurials, etc. Many of the above-named antiseptics undergo changes in their course through the alimentary canal, ere they reach the colon, which diminishes their activity. The best results are usually obtained through those insoluble drugs which remain unchanged throughout their course, such as salicylate of bismuth, salol, iodoform and naphthalin. When the salicylic acid accumulates in the blood and threatens complications, the subnitrate of bismuth may be substituted for the salicylate. In giving these intestinal antiseptics it is not necessary that the dose should be sufficiently large to kill the bacteria but large enough to render them dormant, as it were, thereby preventing their multiplication. We know of nothing better than the subnitrate of bismuth in combination with charcoal to neutralize poisons already formed and to prevent fermentation and putrefaction.

We make up a powder containing ten grains each, to be repeated at short intervals until there is evidence of relief, such as a diminution of tenderness over the abdomen and tympanites. The bismuth seems to prevent the putrefactive fermentation, while the charcoal diminishes the toxins. Iodoform may be combined with charcoal or with naphthalin to accomplish the same purpose. To diminish the fecal odor as well as the toxicity, Bouchard combines seventy-five grains of naphthalin with an equal amount of sugar made aromatic with one or two drops of bergamot. This mixture he divides into twenty powders and gives one every hour. In this way he claims putrefaction in the intestinal tube may be completely suppressed.

The last feature in the treatment consists in assisting nature to neutralize and eliminate poisons which have already entered the circulation. To accomplish this we must see that the eliminatory apparatus is in perfect order, for when any one of the emunctories gets out of order, poisons immediately accumulate in such quantities that nature can neither neutralize nor eliminate them. The blood must be toned up by tonics, if necessary, the liver and kidneys by medicines that will stimulate them to renewed activity, and the skin must be kept in order by frequent cold baths, followed by a brisk toweling and massage. In addition to remedies directed for the perfection of the emunctories, we must see that patients suffering from auto-infection lead a simple, regular, active, occupied life, and do not mope about and brood over their afflictions.—*Langsdale's Lancet.*

THE NARROWING FIELD OF THE GENERAL PRACTITIONER.—The following is a portion of an essay by Dr. Onslow Gordon, of Brooklyn, in *Weir's Index*, inculcating a higher self-confidence and a less constant reliance upon specialists. He holds that specialism is overdone to an extent injurious to general medicine, and a concert of action is needed. He further says:

"Within comparatively few years the field of the general practitioner has been very much narrowed, and present indications point to still greater inroads upon his field of usefulness. Should he be crowded into such narrow quarters that he will be unable to exist, the fault will be largely his own. It requires but a moment's reflection to convince one that the number of good all-round physicians is rapidly growing smaller and that the tendency is toward specialism. While I have nothing to say against specialism in medicine, and would not wish to go back to the time when there were no specialists, as we owe very much to them, and there are certain lines along which they can do better work than the man who tries to cover the whole field of medicine and surgery, I think that the general practitioner is too dependent upon them at the present time. A very large number of physicians (especially the younger members of the profession) are doing a larger business as distributors of cases than as practitioners of medicine; 'they shake the bush and the specialist gathers the fruit.' There is not a member of this Association that has not repeatedly seen the specialist called upon to open a simple abscess,

remove wens, dilate for anal fissure, remove tonsils, ingrowing toe-nail, perform circumcision and do an innumerable number of operations that the family physician should blush to decline. All surgical cases are sent to the surgeon, gynecologic cases to the gynecologist, throat and nose work to the laryngologist, heart and lung affections to the chest specialist, nervous diseases to the neurologist, diseases of the rectum to the rectal specialist, genito-urinary ailments to the genito-urinary surgeon, joint and bone diseases to the orthopedic department, eye and ear troubles (however slight) to the ophthalmologist, and skin diseases to the dermatologist; we can also find specialists who will call us good fellows if we will turn over our stomach, kidney and hernia cases; yet there are very few specialists who will decline to treat a patient, no matter what his ailment may be, if the *money* is in sight. While the people of moderate means still tolerate the family physician as an obstetrician, the more favored in worldly goods are looking for a specialist when an accoucheur is desired. If matters continue on these lines, the specialist, or more properly speaking, the general practitioner, will leave for himself possibly acute coryza and constipation. The tendency to rely on the specialist has grown to such an extent that there are many physicians who will not remove a retained placenta, suture a recently lacerated perineum, however simple, open an abscess or venture a diagnosis in any obscure case. It is the custom of the times that makes them hesitate to rely more on their own judgment and call into action the ability their patients have a right to expect them to have. It has been well said, 'The wise and brave conquer difficulties by daring to attempt them.' Perhaps the time will come when the general practitioner will be consulted only as to the advisability of calling a specialist and whom to call. All this can but tend to belittle the family physician in the eyes of his patients, limit his ability and impair his usefulness, to say nothing of his loss from a financial standpoint. The physician who has no confidence in himself cannot expect others to trust him with their lives. I believe there will always be room for the well-equipped general practitioner, unless he persists in turning away all of his most interesting cases. By so doing he will help educate the rising generation to believe that they are to depend on the family physician to treat slight ailments only.—*Journal Am. Med. Assoc.*

MODERN TREATMENT OF PROGRESSIVE POLYARTHRITIS DEFORMANS.—Physicians are too much inclined to consider this disease incurable. Its pathogenesis is still obscure, but it is probably due to some infection which rapidly localizes itself in the nervous system. It attacks both adults and young people, starting with one or two acute seizures, develops from below upward, attacking symmetrically the articulations of the members and then of the trunk, but scarcely ever causes visceral lesions. The usual internal remedies for rheumatic or gouty tendency, salicylate of soda, preparations of colchicum and alkalies in large doses, usually fail to produce any effect in this disease. The only internal medicines which prove effectual are iodine and the iodides combined with preparations of arsenic. It can be commenced with small doses of iodide or tinc-

ture of iodine, taken in the middle of the two principal meals, 4 to 5 and even 10 drops of tincture of iodine in a glass of wine or of *eau sucrée* or syrup of bitter orange peel in water. Or else a teaspoonful of the following: Two grams each of potassium iodide and sodium iodide in 120 grams of dist. water. After fifteen days of this treatment it is to be suspended and a teaspoonful of the following taken in the same way with the meals in a tablespoonful of iodotannic syrup: Sodium arseniate 0.05 gram in 120 grams of dist. water. The sodium arseniate can be replaced by Fowler's solution taken in progressive doses, increasing from 3 drops at each meal to 6 drops, and then decreasing a drop a day until the original dose is reached. This treatment is to be continued several months, alternating the arsenical medication with the iodides. If, as sometimes happens, the iodide is not borne well, the tolerance can be increased by associating with it belladonna and arsenic in the following proportions: Potassium iodide, 4 grams; sodium arseniate, 0.02 gram; neutral sulphate of atropin, 0.001 gram, and 120 grams of dist. water. Take one teaspoonful in the middle of each of the two principal meals, in half a glass of Vichy water (Hauterive). In combination with this internal medication there should be external treatment to ward off the threatening anchylosis in the joints. They must be frictioned with a stimulating liniment, and as the frictions are to be made daily, irritation of the skin should be carefully avoided. The following is a good liniment for this purpose: Liquid ammonia, 50 grams, with 100 grams each of balsam of Fioravanti and spirit of lavender. The frictions may be followed by slight massage, but it is best not to massage the articulations and avoid imparting too active movements to the diseased joints. The different methods of electrization have all proved impotent, even long-continued currents applied to the atrophied muscles consecutive to arthritis of this kind. Alkaline and saline baths, very hot and prolonged, sometimes produce good results, as also hydromineral treatment at Aix-la-Chapelle, Dax, Saint-Armand, Ragatz, Bourbonne-les-Bains, Bourbon-l'Archambault, etc. But in the torpid periods of the disease, to combat the articular deformities and restore mobility to the anchylosed members, mud and sand baths are excellent. These have been recommended for many years, but it is only comparatively recently that the establishments at Dresden (Dr. Fleming), Kostritz, near Leipsic (Dr. Sturm), at Berlin (Dr. Grawitz), and especially at Lavey, in Switzerland (Dr. Suchard), have really rendered these baths practicable. The Grawitz method enables baths to be taken at home in an ordinary bath tub at 122 degrees, but the best results are obtained at Lavey, where the establishment is fitted up with appliances for whole or partial baths of sand, evenly heated to 122 and 140 degrees, absolutely free from gravel, clay, calcareous or organic matters. The partial baths are considered best, as they do not debilitate. The baths produce an excessive cutaneous secretion, which has been found to benefit to a surprising degree sciatic and chronic rheumatism and gout. They also modify very favorably cases of arthritis deformans. The Lavey water is also beneficial in rheumatic disorders.—*Rev. Int. d. M. et d. Ch.*

OBSTETRICS AND GYNAECOLOGY.

IN CHARGE OF

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HOW CAN SUPPURATION BE BEST PREVENTED IN ACUTE PELVIC INFLAMMATIONS?

BY WM. R. PRYOR, M.D.

I shall not treat of those forms of pelvic inflammation which arise from disease of the pelvic bones, from bowel disease, or from other causes which are operative in men as well as women; but shall confine myself strictly to those inflammatory conditions which arise from causes extending through the uterus.

In the earlier application of laparotomy to the treatment of inflammatory diseases of the uterine adnexa, conditions were met with which could only be treated by removal of the affected parts. The subjective symptoms were of the most distressing nature, and examination demonstrated an extensive involvement of the pelvic peritoneum, together with ovarian and Fallopian disease. Having obtained marked success in removing the grosser evidences of chronic pelvic inflammation, as pyosalpinx, hydrosalpinx, etc., we began to apply the radical operation of laparotomy to the treatment of the more acute forms of tubo-ovarian disease. Just here we made a mistake.

I had met with a number of cases of gonorrhœal infection of the uterus and tubes in which nature apparently effected a cure; certainly, disagreeable symptoms disappeared, and examination showed no marked pelvic lesions. Applying to a consideration of these inflammations observation made in the study of the extension of infection in other parts of the body, I began to seek for some means to assist in the cure of these cases. The idea struck me that I might here apply the surgical rule that stopping the supply of infectious material conduces to a cure of its complication and prevention of extension; and in 1891 I began to curette the uterus for acute salpingitis and peritonitis. The results obtained were startling. A riper experience and more careful observation of my cases have led me to expect a cure (or rather, to retain the idea of my paper, to prevent suppuration) from currettage, irrigation, and the use of antiseptic dressings in one class of cases only, namely, those cases of first infection when seen within a week after extension of the infection outside the uterus. This operation, the advocacy of which brought so much unpleasant criticism upon me, is now the accepted routine procedure in most of our general hospitals.

I have applied it in nearly a hundred cases of acute first attacks and have never seen failure result from it when early applied. If we secure good results from this treatment, where an infection has already extended to the tubes and pelvic peritoneum, it may be presumed that the curettage is indicated whenever the endometrium is infected. My experience has taught me that such is the case. The causes of failure in the hands of others I have traced to the use of strong antiseptics within the uterine cavity, partial removal of *débris*, and incomplete packing of the uterus.

The observation and experience of six years with conservative curettage have taught me to surely expect a complete recovery in cases of acute endometritis with salpingitis and peritonitis when seen early in first attacks.

I do not divide the cases according to the infection, whether septic or specific, but treat all pyogenic infections alike. But there are many cases which are seen late; there are other cases which present an acute process implanted upon a chronic, cases of chronic relapsing salpingitis; and still other cases which have been cured entirely, so far as we can see, by operation years before, but have become reinfected. Although these cases are certainly most acute, it must not be forgotten that previous attacks of tubal and peritonitic inflammation have markedly changed the nutrition of the affected organs.

Suppuration *may* not ensue, but it is likely to. Curettage helps all these cases somewhat, but so many failures to afford entire relief result where curettage alone is employed that more must be done. Henrotin, Chicago, has written very ably upon this subject, and credit for the idea is due him. For two years, in all such cases, I have operated as follows: The uterus is thoroughly curetted and irrigated. All instruments being changed, in a few minutes, the cul-de-sac is opened and a wide blunt dissection made in the vagina and cul-de-sac by separating two fingers. The fimbriated ends of the tubes are opened if found closed. All serous-fluid accumulations are evacuated, and the pelvis wiped dry. No irrigation is here used. I then pack from three to five yards of iodoform gauze into the pelvis, each strip being about three inches wide. The uterus is next tightly packed as is also the vagina. A self-retaining catheter is introduced. On the third day the vaginal gauze is removed, together with that in the uterus. The vaginal gauze is renewed but the uterine packing is not, unless the uterus be large. The gauze in the pelvis comes out in a week or ten days under chloroform and another large pelvic packing is made.

The results of this operation are most gratifying. The lymph which is thrown about the antiseptic dressing disappears in a few months and the uterus becomes perfectly movable. Accidents have never happened to me and I have so far been uniformly successful in preventing suppuration. In several of these cases of relapsing salpingitis I have met with large hydrosalpinx and broad ligament cysts. These were merely incised and evacuated.

So much has of late years been written upon hysterectomy in inflammatory cases that the profession at large has come to believe pretty generally that we gynecologists have nothing else to offer a woman who has pelvic

peritonitis other than some mutilating operation. These two operations, one matured, the other new but sufficiently tried, will very effectually prevent suppuration in the pelvis when properly applied. All the criticism which has been put upon the operation of hysterectomy is not merited, but most of it is. He who first sees these cases of pelvic inflammation, folds his hands, orders opium and poultices, and lets the infection run riot in the woman's pelvis, is the man to blame. I consider it an imperative duty to treat pyogenic infection here by surgical means only. Laparotomy is no longer warranted, unless there be pus present, for peritonitis of a distinctly pelvic character. We have in these two operations the means to prevent the wholesale mutilations which we see advertised on every college and hospital bulletin board. But we must get our cases early. The responsibility resting upon the family physician is great. I state it as mildly as I can when I say that the greatest nonsense ever receiving the support of intelligent men was Alonzo Clark's treatment of peritonitis by opium. Pelvic inflammation is due to an invasion from without One very common result of such infection is production of pus. Nowhere else in the body will the surgeon adopt the stasis plan of treatment of an infection. Incision into the cul-de-sac immediately relieves these women of pain. Very often within twelve hours the bed is soaked with serum, so great is the drainage. The breaking up of adherent lymph-plates opens the mouths of the infection-laden lymph-streams and they pour all their contents into the gauze. These operations take the place of opium and poultices; they do not, by locking up the emunctories, foster infection, but stop it short. I feel that I have something between the poultice or ice-bag and the horrible hysterectomy. I believe I can nearly always prevent suppuration.

I cannot too strongly urge you to apply to the acutely inflamed pelvis of a woman those general surgical principles which are embodied in the two procedures of (*a*) cutting off the primary source of an infection, and (*b*) draining away its results. This is the truest conservatism, for it seeks the conservation of tissue diseased and, at the same time, protects the general economy against the results of diseased processes. Above all, it leaves the woman her menstrual function. These women are symptomatically and physiologically cured, for they bear babies afterward.

In reviewing my experience of the last sixteen years, I believe I can at last see my way to prevent the formation of pus where the tubes and peritoneum are involved; and I feel much gratified upon being able to present these operations to you. For many months, week after week, I have shown these operations to the practitioners who honour me with their presence at my lectures. I have hammered at them with the irresistible arguments, demonstration and result. From among the seven or eight hundred who have gone out, some have tried the cul-de-sac opening where before they used opium. Their letters are indorsement enough. I shall be more than repaid if I can make among you a few converts.

A NEW METHOD OF ENTERO-ANASTOMOSIS.—Souligoux (*Gazette heb. de Méd. et Chir.*, July 23, 1896) has devised a new method of intestinal anastomosis, which consists in suturing two loops of gut without opening

them. With a strong clamp, he pinches, in a longitudinal direction, the free border of the two intestinal loops, and then stitches them together along one margin of the compressed areas. These areas are then touched with caustic potash, and the suture completed around them. The cauterized portions of the gut necrose, and fall into the lumen of the intestine, and communication is established. In animals, this takes about forty-eight hours. The operation has been performed upon man several times with success.

Chaput has performed a similar operation, using a Paquelin cautery in place of caustic potash. If the stomach enters into the anastomosis, he first removes the muscular coat of the portion involved. Retention of feces is a contra-indication. The chief advantage of the operation is the rapidity with which it may be performed.

CHOLECYSTO-GASTROSTOMY.—Terrier (*Gazette Hebdom. de Méd. et de Chir.*, July 16, 1896) reports a case in which, upon opening the abdomen for obstruction in the gall-duct, due to cancer of the pancreas, he performed the unusual operation of forming an anastomosis between the gall-bladder and the stomach, which was more readily accessible than the intestine. Recovery followed the operation, and there was no disturbance due to the outpouring of bile in the stomach. The patient died some months later of disseminated carcinoma, and, upon autopsy, the anastomotic opening was found to be ample. Only two other cholecystogastrostomies have been performed.

RESULTS OF FIVE HUNDRED VAGINAL HYSTERECTOMIES.—Jacobs (*Centralbl. f. Gynäkol.*, No. 29, 1896) finds that the mortality of five hundred hysterectomies for various causes is only 3.4 per cent. Among the cases are forty-nine of carcinoma uteri without a single death. Two of the deaths were from intestinal obstruction, brought about by adhesions of the intestine so low down in the vaginal region that the author thinks they might have been avoided by vaginal tamponade. Practical directions for the operation are given: Short clamps hold better than long ones. For the first part, a thermocautery is preferable to the knife as saving time and blood.

When the extirpation is complete, Jacobs ties off the clamps on the broad ligament, stitches the peritoneum together, and thereby renders the patient more comfortable, and avoids danger of intestinal adhesions and herniæ in the vagina. In inflammatory cases, drainage of the peritoneal cavity is necessary, gauze being employed.

REMOVAL OF ONE-HALF OF THE KIDNEY FOR TUBERCULOSIS; FAVOURABLE PROGNOSIS IN RENAL MALIGNANT DISEASE.—How important has become the application of surgery to the kidney is shown by the fact that a single operator, J. Israel of Berlin, is able to report (*Deut. med. Woch.*, May 28, 1896) 126 cases so treated by himself. Eleven times the kidney was extirpated on account of tubercular disease. In a twelfth case the lesions were situated so evidently in one end of the organ that Israel decided to remove only the upper half of it. Hemorrhage was

avoided by digital compression of the renal artery during the cutting away of the diseased portion. Then a compress was held against the cut surface for some minutes; upon its removal there was no bleeding, but for safety a piece of gauze was stitched by catgut against the cut surface. Recovery was prompt and complete, and the patient has remained in good health for over a year.

This operation is recommended only in exceptional cases, as tubercles too small to be observed at the operation usually extend beyond the area of the gross lesion.

Another encouraging feature of this report is the chapter on malignant tumours of the kidney. There were seventeen such cases—six carcinomata, ten sarcomata, and one so-called struma renalis. Complete nephrectomy was performed in each case. Two patients died from operation; one a year later, of acute peritonitis, without recurrence of the cancer, and six were well at the time of report, no recurrence having manifested itself in periods ranging from fifteen months to nine years.

TUMOUR OF MESENTERY; TUBERCULAR.—In the *Deut. med. Woch.*, June 11, 1896, Gruneberg mentions a rare case of tuberculosis isolated in the mesenteric glands, and resulting in an abscess holding about two pints, which formed a freely movable tumour in the right side of the abdomen, the site of which was correctly diagnosed, but whose nature was not suspected until it was ruptured in the attempt to shell it out of the mesentery. The patient was an eight-year-old girl, with no previous illness except a diarrhœa of short duration three months previous to the appearance of the tumours. At the autopsy, three days after operation, other mesenteric glands were found tubercular, but there were no other traces of tubercle organ.

SUCCESSFUL LAPAROTOMY FOR RUPTURED UTERUS.—Three hours after labour began in a twenty-one-year-old III-para, the membranes ruptured and a hand came down. Two hours later a midwife made desperate attempts to extract the child by this arm. There was a sudden pain and collapse, with pulse at 128. About two hours later the abdomen was opened and the child and placenta found in the peritoneal cavity, the rupture being on the anterior wall of uterus and vagina, and extending into the left broad ligament. The uterus was removed and its stump treated extraperitoneally.

According to Rein (*Wratsch*, 1896, No. 6), whose case this is, laparotomy has been performed in rupture of the uterus twenty-five times, fifteen times successfully.

POST-PARTUM HÆMORRHAGE.—Turpentine is a prompt and efficient remedy. *Lancet-Clinic.* A piece of lint saturated therewith should be carried directly into the uterus so as to bring it into contact with the inner surface. In cases where the patient was almost pulseless it seemed to act as a stimulant, but on no occasion did it fail to instantly check the hæmorrhage and produce contraction.

NERVOUS DISEASES AND ELECTRO-THERAPEUTICS.

IN CHARGE OF
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SCRIVENER'S PALSY NOT SOLELY PEN FATIGUE.

BY C. H. HUGHES, M.D.

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From an intimate familiarity with a large number of cases of writer's cramp or, better, writer's palsy, and other forms of the so-called occupation neuroses, I have long been of the opinion that the occupation is not the sole cause, but simply the determining, and to a limited extent only the predisposing, cause of the special expression of those neuroses which we call by the several names of Scrivener's palsy, musician's paralysis, chorister's cramp, engraver's palsy, etc., etc., etc.

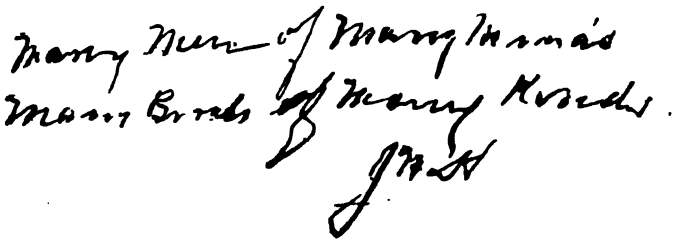
The usual sedentary, excitable, irregular and excessive nerve-strain life of the individual, blended often with associated brain and nerve exhausting dissipations, together with inherent neuropathic predisposition being the essential conditions of the development of the neural instability and exhaustion neuratrophia, through which it is possible to have an occupation neurosis by excessive or even moderate use of a special group of muscles in the represented daily routine of a certain vocation.

The proof that local over strain is not the sole factor is found in the fact that many cases of occupation neuroses are not the result of excessive over-work ; unless we use the term as applied to the particular individual as excessive, which may be, and often is,exceedingly light at the time of the break-down, such as would show unfavourable on the average worker in the same field, and sometimes the local palsy appears after the individual, from general debility, has quit work for a time and again resumed his occupation for awhile only to discover his inability to use with former dexterity the instrument of his occupation.

The following record is a case somewhat in point:

The gentleman did not know he had this affliction to such an extent till making the effort illustrated below in my office. He is not and has never been a professional book-keeper or accountant. His vocation has been to sell goods in an exclusively cash store in a small interior city. He has been all his life at this occupation. He is married, is temperate and moderately regular in his habits. His tendon reflexes and physical

functions generally are quite normal, except that he has nervous dyspepsia and does not sleep as much as he ought. He has no intention tremor or no involuntary tremor of any kind. No eye defects; no lightning pains; no pupillary derangement; nothing suggestive of either posterior spinal or *en plaque* sclerosis. When he writes he supports his wrist and makes one letter at a time. He is naturally somewhat ambidextrous, though preferring his right hand, and both hands give the same expression to his hand writing. This is how he writes:



This gentleman has some sources of private worry; has been anxious to make more money than he has acquired; has kept steadily to an indoor occupation and become so neurasthenic that the muscles in writing do not respond well even to a moderate demand, but display those irregular explosions of nerve force at the regular behest of the will which we are accustomed to speak of, when so displayed through the fingers used in writing, as Scrivener's palsy or writer's cramp.

In a large neurological experience I have encountered so many such cases where the local strain was not commensurate with the palsy, especially among choristers and pianists, and these facts, I think, justify th s record.

The above is this patient's best writing.

THE EFFECTS OF ELECTRICAL EXCITATION IN THE CEREBRAL CIRCULATION IN MAN.—V. Capriata, *Annali de Nevrologia* XIII, iii-vi, publishes the results of an experimental study of the effects of electricity on the circulation of the human brain. He used in these experiments two patients who have been trephined, and who, therefore, could serve for the direct application of the recording apparatus to the cranial contents. The conclusions reached indicate the range of the experimentation, and are given as follows:

The results obtained from this long series of observations demonstrate clearly not only that electricity, both galvanic and faradic, applied in man according to different methods, can act in the circulation of the brain, producing profound and lasting variations, but offer besides the opportunity for better establishing certain data of electra-physiology not as yet well ascertained.

We can first of all make sure that in the application of the galvanic current, whether directly or indirectly, to the head, the modifications of

the cerebral circulation primarily and chiefly reflect the state of the vascular walls; and secondarily, as the result of the above change of vascular tones, they alter the fulness of the pulse, and *vice versa* with the application of the faradic current the pulse is first affected.

As regards galvanization of the head, the results experimentally obtained in rabbits by Lowenfeld are not applicable to the human species.

The changes, in fact, that were obtained in the human cerebral circulation with longitudinal currents did not vary with the position of the poles, but were always the same—vascular spasm with consequent smaller pulse. Likewise there was no difference between the pulse action of transverse currents. However arranged, there was only one result—angioparesis with increased fulness of the pulse, equally extended over the whole brain.

On the other hand I do not hesitate to admit with Lowenfeld that the change of vascular tonus obtained from longitudinal galvanization ought to be referred to a direct influence of the electricity on the vaso-motor centres in the medulla. This seems to me the more probable since my observations indicate that similar vascular effects follow galvanization of the sympathetic in the neck whenever an electrode is placed at the nucha. There is no difference of action of the two poles; the result is always the same—vascular spasm.

In galvanization of the sympathetic in the neck, besides the modifications of the vessels, we may have notable changes in the volume of the brain. While the vascular changes, however, are generally and equally diffused, those of the cerebral volume, on the other hand, are limited to, or at least most pronounced in the hemisphere corresponding to the sympathetic irritated. These changes of the cerebral volume being seen only after galvanization of the sympathetic in the neck and never after any other applications I made, I feel authorized to refer them to a special action of the galvanic current on that region where this application is commonly practiced.

Changes of the volume of the brain from galvanization of the smypathetic were also noted by Sgobbo; but while in my observations they appeared irregularly during and after the application of the electricity, in his, on the contrary, they were seen only during the passage of the current, and especially at the closing of the circuit. In my own observations I have often noticed at the opening and closing of the current a varying degree of vertigo in the subject, but no disturbance of the cerebral pulse. A glance at the tracings will suffice to demonstrate this clearly. This fact is not without importance, since it excludes the hypothesis of some authors, and which Sgobbo has credited, that the subjective symptoms (vertigo, nausea, sense of weakness, threatened syncope, etc.,) seen in individuals on galvanization of the head are in more or less direct relation with changes in the cerebral circulation. To me, on the contrary, the alteration of the pulse to which Sgobbo ascribes so much importance is nothing but the effect of the rapid changes of the respiratory rhythm or of sudden movements of the head, since in the the subject vertigo is often associated with a general shake. Indeed by such shaking some of my tracings have the pulse exhibiting the same changes altogether independent of any of the above cited disturbances.

With the application of the faradic current, less in that made longitudinally, in which the cerebral circulation may present variable modifications, in all the others (transverse faradization, faradization of the sympathetic in the neck, cutaneous faradization of the trunk and limbs), aside from slight differences, the last effect obtained is always an increase of the flow of blood in the head.

My results from cutaneous faradization of the trunk and limbs agree almost perfectly with what had been previously established by Rumpf. It is not improbable that the same circulatory changes are produced in the brain by general faradization, and perhaps this is one of the principal reasons why it is so useful in many cases of cerebral neurasthenia and in those specially kept up by more or less profound disturbances of the general nutrition.—*Am. Jour. of Insan.*

BROMIC INTOXICATION.—At the meeting of the Association of American Physicians in Washington, May 1st, Dr. Weir Mitchell read a paper on "Some Unusual Forms of Bromic Intoxication," of which the following is the abstract given in the *Medical News*, May 23rd: It has long been recognized that the bromides may increase the unpleasant after-effects of epileptic attacks, especially the irritability of temper. This will, in some cases, be accompanied by ptosis and feebleness of the limbs, not rarely more marked upon one side than upon the other, just like some drunkards who can recognize that they are distinctly "drunker in one leg than in the other." Feebleness and dullness so marked at times as to amount to partial imbecility. This was the case of a girl of seventeen, whose father, an apothecary, on the principle "if a little helps, much will cure," had been giving her 150 grains of potassium bromide a day. The fits stopped, the child nearly did the same, lying for days in a state of imbecile collapse, but recovered rapidly when the drug was stopped.

In two children, to each of whom 100 grains of lithium bromide was given by mistake, a similar, though milder, condition developed. There were curious disturbances of memory, and they were quite unable to walk, the left leg being worse than the right. In many cases he had seen melancholia and mental depression, even a suicidal degree, produced by the continued use of the drug. In one singular case a doctor's wife, who had been mildly melancholic for years, on approaching the menopause, began to be troubled with marked suicidal tendencies at her menstrual periods. These she confided to her husband, and he brought her to Dr. Mitchell, when, after much questioning, she confessed for the first time that ever since a furious attack of sciatica years ago, she had been taking sixty grains of mixed bromide daily "for fear the pain would come back." She was advised to stop this practice at once, and to her surprise her next period passed without any unpleasant symptoms, and in a few weeks she was rid of her melancholia entirely. A year later, in the course of a neuralgic attack, she was given ninety grains of bromide by an attendant, with the result that her melancholia returned and lasted until the effects of the dose had passed off. In other epileptic cases the drug would increase irritability of temper to the verge of homicidal tendencies.

Some years ago a young farmer was brought in by his friends with this sort of a history. Dr. Mitchell was then utterly skeptical as to the possibility of such an effect, and in spite of the great reluctance of the patient's family, insisted on putting him upon the usual bromide treatment. The experiment at the end of three days came most perilously near resulting in a tragic homicide, and the doctor was fully convinced without further trial. In two instances young boys were reported by their parents as "ugly" and unmanageable whenever they were taking the bromide, though at other times good-tempered and obedient.

The drug also produced marked maniacal excitement, which passed away on its stoppage.

In the discussion following, Dr. Janeway mentioned several fatal cases of bromide poisoning with doses of three, six and eight drachms respectively. Two other similar cases had been reported to him by the coroners of New York. The excessive use of "bromo-soda" by alcoholics for sobering up had caused symptoms closely resembling those of general paralysis. He was sure that many cases of mental depression in convalescence from typhoid were due to the bromides taken.

Dr. Hare questioned whether the potassium element might not be the dangerous one—even citrate of potash in large doses had been known to cause collapse. In the use of bromo-caffeine or bromo-soda might not the caffeine be responsible? He had seen large doses of it, given in heart disease, produce acute mania.

Dr. Lyman questioned whether heredity and the arthritic diathesis might not contribute largely to the irritability and mania. He had avoided the potash salts for years.

Dr. Thomson added cases corrobative of the paper.

Dr. Dana rejected the idea of the special harmfulness of the potash salts. He thought the chief danger was from the bromide alone, and that if the doses were not so unnecessarily large it would all be avoided. In his experience three to five grains produced as marked effects in most cases as twenty or thirty grains.

Dr. Mitchell, in closing the discussion, said that personally he had seen as depressing effects from the sodium and lithium as from the potassium salts. He urged a more sparing use of the bromides which seemed to be regarded as a therapeutic necessity in nearly all nervous affections, as he seldom saw a case in consultation in which they had not been prescribed. —*Am. Jour. of Insan.*

A NEW METHOD OF TREATMENT OF HYSTERICAL APHONIA.—Michelson, (*Jour. Eye, Ear, and Throat*).—The method consists in, after certain preparations as though something important were about to occur, placing the finger in the naso-pharynx as in adenoid operations. The manipulation causes frequently great commotion. Then, it is probably terror that causes the return of the voice. After the patient is through crying out, he is made to count with a loud voice, and then discharged. The novelty of the method has doubtless much to do with the reported good results.

NOSE AND THROAT.

IN CHARGE OF

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THE TREATMENT OF ATROPHIC RHINITIS, WITH A CASE.*

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The object of this paper is to elicit a consensus of opinion in regard to the best method of treatment of atrophic rhinitis. It is pitiable to find out what desperate measures are resorted to for the relief of this condition, because people believe that doctors are helpless to relieve them, and therefore willingly accept the most violent or disgusting remedies. For example, I was recently informed by a comparatively intelligent man that he had been almost cured by inhaling his own urine. This he practised continually until he was induced to discontinue it by the fear of gonorrhœal or syphilitic contagion in the nose and eyes.

It is hard to find any two authors who agree upon a specific line of treatment. The journals team with innumerable suggestions, the majority of which are generally utterly useless, because they are not directed to the cause of the disease, and very often even aggravate a condition which is already almost, if not quite, incurable. In order, therefore, to get the best result possible—which is at best a palliative one—it is necessary to determine what is the exact cause of the disease and what is the *status præsens* of a case which aggravates the condition and completely obviates Nature's efforts at repair.

Many theories have been advanced of the ætiology of this disease. Dr. Mackenzie says: "That atrophic rhinitis always appears as a sequel of a pre-existing catarrhal inflammation is rendered highly probable from a number of clinical and pathological facts. If the clinical history be accurately taken, it will point to a pre-existing catarrhal process. As has been indicated above, the rapidity with which the hypertrophic passes into the atrophic form of rhinitis is proportionate in all probability to the possession of some constitutional taint, such as congenital or acquired syphilis."

Dr. Bosworth says that a purulent rhinitis in childhood is a catarrhal process in the first year and a catarrhal process always, and that it consists essentially in an increased secretion of mucus in the earlier stages, together with a rapid desquamation of epithelial cells, which, running its course as a purulent disease in from five to ten years, develops finally into what is known as atrophic rhinitis. The disease, in fact, is the first

* Read before the American Laryngological Association at its eighteenth annual congress.

stage of so-called dry catarrh or ozæna. The theory that a purulent inflammation of the accessory cavities was the cause of atrophic rhinitis was advanced many years ago by Michel.

An hypertrophied mucous membrane was found in one nostril with atrophic degeneration in the other, but that does not prove that either condition is dependent upon the other.

Syphilis frequently results in atrophic degeneration of one or both nostrils as a natural result of the ravages of that disease.

Purulent discharges originating in any of the accessory sinuses or resulting from a simple acute inflammation may likewise result in atrophic degeneration, with more or less complete destruction of the muciparous glands and follicles.

The effect of pus on the epithelia and glandular structures, especially in the nose, need not be dilated on here, but it has been a well-observed fact that atrophic degeneration almost always begins upon the middle turbinate bones, and it has also been noted that scabs which become incrusted there and elsewhere almost always contain some particles of pus incarcerated on the under surface of them. Of course, it may be said here that atrophy may result from the simple non-use of any organ without the presence of any inflammation—simple or purulent—to produce it.

Paradoxical as it may appear, but nevertheless true, the nostrils of habitual mouth breathers or those to whom the nose is little more than an ornament on the face, instead of becoming larger from atrophy of the mucosa, become narrower and more occluded, almost as though an hypertrophic instead of an atrophic process had been established, so that it cannot be said that atrophic degeneration is in any case due to simple non-use of the organ—first, because of the reason above cited; and, second, because the worst cases of atrophic rhinitis are often found in those who live in workshops where they breathe the most foul air, sooty emanations, etc.

Atrophic rhinitis occurs quite often at a very early age. Large green scabs forming complete casts of the nose have been found in children of seven years and younger. In these cases the ætiology of hypertrophy—dust inhalation, etc.—has to be entirely excluded. This was notably the case in a child of six or seven years that was brought to the writer several years ago. There was no specific taint in this case, and hence there could be but one cause to which the disease could possibly be attributed—namely, a prolonged acute rhinitis, resulting in an acute cold, which had been left to run on until the nasal mucosa was almost entirely destroyed.

It is apparent, then, as has been stated by some writers, that atrophic rhinitis, is not a disease *per se*, but is the result of any inflammation, acute or chronic, specific or non-specific, whether excited by exposure to cold or continuous inhalation of irritating dust, vapors, etc., which ends in a purulent discharge, and which may or may not involve the accessory sinuses, but is sufficiently prolonged to wash away the epithelia and destroy the nasal mucosa, turbinates, etc. If this is true, what measures should best be instituted for the relief of the patient, and what hope have we that the formation of scabs may be stopped?

It would be but a simple matter to search for and give free outlet to

all pus cavities, scrape away carious bone, and wash out scabs, etc., but it has heretofore been the humiliating experience of the writer, in common with other physicians, to find that the scabs continued to reform exactly as they did before, and that the douche had to be used as persistently as ever.

It is with great hesitancy, therefore, that I venture to offer a method of treatment which in one case at least has exerted a marked influence in stimulating the nasal mucosa to an almost hypersecretion, and causing the scabs to move from their former site, so that they might more easily be blown out of the nose.

The patient was a lady, aged thirty-four years, without any specific taint that I could detect, of splendid physique, and in excellent health otherwise. The scab formations were first noticed about fifteen or more years ago, following an attack of measles. Since then she has suffered much at the hands of many doctors and from varied treatments. The inferior and middle turbinates are gone on the left side and seriously injured on the right. When she came to me I first suspected involvement of the accessory sinuses, but, on account of uncertainty, I resorted to almost every kind of local stimulating application in combination with iodide of potassium, freely administered internally. This was given not for its antisyphilitic effect, but on account of its influence on lacrymation, etc.

Scarcely any local improvement resulted from this. Finding, then, that the left side was the most seriously affected, I opened the anthral and ethmoidal sinuses on that side thoroughly, and irrigated them daily with antiseptics, but this also failed to afford relief.

Acting upon the suggestion of the Gottstein cotton tampon, I saturated a pledget with a strong solution of iodine, glycerin, and the iodide of potassium as follows:—

℞ Iodide of potassium ..... ℥ ijss.;
Iodine ..... gr. xl;
Glycerin ..... ℥ j.
M.

This was packed daily between the upper turbinate and the roof of the nose, and allowed to remain for twenty-four hours. Profuse lacrymation and supersecretion were caused, and the scabs were forced from their old location and collected in the lower nostril and were blown out. The scabs still continued to form, but the patient is enabled to get them out much more readily and to partially do away with the use of the nasal douche.

As already above stated, this paper is written purely in hopes that it may elicit the best practical measures for the relief of these cases because they are surely regarded at present by the laity and general profession as the *opprobria medicorum par excellence.*

[NOTE.—Commenting upon the above article upon atrophic rhinitis, I have found the "plasma nasal tablet" (Parke, Davis & Co.), added to two ounces of warm water, used three times a day as a spray or douche, to be of great utility in the disease, two cases upon my books having apparently been cured by the persistent use of the plasma solution with no other local treatment whatever.—MURRAY MCFARLANE.]

CASE OF LARGE PAPILLOMA, WITH OBSTINATE HYSTERICAL APHONIA.

BY A. B. FARNHAM, M.D., MILWAUKEE.

On March 2, 1894, N. B., nearly 14 years of age, consulted me. Family history showed father and mother died of phthisis. When ten years and six months old, she had measles, on recovery from which she noticed a slight hoarseness. This rapidly increased, and in three weeks she could talk only in a whisper. Difficulty in breathing began later, and gradually increased until in November, 1893, respiration had become somewhat difficult. Her general appearance was anemic in the extreme; weight, 45 lbs.; glands of neck enlarged, notably on the left side, head drawn to that side; breathing stridulous.

Mirror showed swollen arytenoids and an appearance like extensive ulceration between the swollen membranes. Unfavourable prognosis given. Immediately lanced the swollen tissues on the left side, with slight but instant relief. Next day, lanced the right side, and then could see that there was a large growth of some kind apparently filling up the whole larynx. Removed with Mackenzie's forceps quite a mass of papillomatous growth. The blood running into the trachea caused me to suspend the operation. At the next sitting, used my pharyngeal finger-nail, and scooped out all I could reach. The fragments secured filled a drachm vial. The stump was treated with chromic acid fused on point of small applicator. The attachment was on under surface of left cord at anterior commissure.

Her breathing became normal, her cords perfect in action; but six weeks of treatment did not enable her to talk out loud, although she gained rapidly in flesh, became rosy-cheeked, active and vivacious. For a time, I heard from her directly—no improvement in voice. Five months after, through a letter written to a nurse, I learned that while with a chorus of many children, she found herself making as much noise as any of them. This was afterwards corroborated by the physician, who reported this year that she had no further trouble.

I report the case for what interest it may have. The using of the finger-nail and clearing the growth to the stump was a great satisfaction.—*Laryngoscope.*

INSANITY AND HEADACHES DUE TO NASAL INFLAMMATION.—Dr. J. H. McCassy (*Cincin. Lancet-Clinic*) says that as a result of his observation in the examination of about eight hundred cases, several times a week, in the Kansas State Insane Asylum, he is convinced that hypertrophies, vaso-motor rhinitis, polypoids, deflections of the septum, chronic inflammation of the ethmoidal, frontal and maxillary sinuses, etc., are frequently the cause of headache, and in not a few cases of insanity.

NASAL HYPERTROPHY IN ITS RELATION TO EAR DISEASE.—MacNaughton Jones (*Annales des mal. de l'Oreille*, Vol. 22) concludes, as the

result of long observation and careful investigation, that hypertrophies of the turbinates as ætiological factors of deafness, present a smaller percentage than would appear probable at first. An examination of 300 cases of aural disease revealed only 69 hypertrophies of the turbinates and 18 deviations of the septum; in only 25 per cent. of the cases, therefore, can nasal obstruction be regarded as causing deafness. He lays stress on the too frequent and too severe treatment directed toward hypertrophy of the turbinated bodies for the relief of deafness, and cautions against too free an application of the cautery and snare in the consequent turbinatomy.—*Laryngoscope.*

INTRATRACHEAL MEDICATION.—Dr. J. L. Barton, in an article in the *Med. Record*, reports having treated twenty-five cases by intratracheal injections, including cases of severe laryngo-tracheitis, bronchitis, and tuberculosis, and one case of asthma. He cites as the advantages of this form of medication:

"1. The remedy is applied directly to the irritated mucous surface.

"2. It immediately alleviates the most distressing symptoms, adding at once to the comfort of the patient.

"3. In a certain number of cases, the antiseptic effect of the medicine is very pronounced, as shown by the longer interval between the febrile attacks and by their lessened intensity, when they do occur.

"4. The tracheal and bronchial mucous membrane rapidly absorbs the medication, so that we may expect a general as well as a local effect.

"5. We avoid disturbing the patient's stomach with nauseating doses and the shattering of his nervous system with opiates.

"6. This method of alleviating the most distressing and annoying symptoms does not interfere in the slightest degree with any other line of general treatment which may be deemed advisable.

"7. In cases characterized by an atrophic condition of the tracheal mucous membrane or of pulmonary disease with cavitation leading to retention and decomposition of the secretions, intrabronchial injection will remove the disgusting fetor of the breath consequent upon this condition."

The remedies employed should be soothing and the vehicle non-irritating, the preferable vehicles being the petroleum oils.

From one-half to one drachm may be injected at each insertion of the tube, and this may be repeated at one sitting until from two to four drachms have been used.—*Laryngoscope.*

HYPNOTISM IN THE CURE OF STAMMERING.—Thomas B. Keyes, in the *Columbus Medical Journal*, reports his success with hypnotic suggestion in the treatment of severe cases, after methods of exercise, breathing, elocution, etc., had been tried to no purpose: "Though it would be difficult to trace the exact details through which the cure is effected, it is probable that in these cases it was brought about more particularly by suggestions made with a view of giving to the patient confidence in his ability to talk without stammering; though by hypnotism an influence may be exerted upon any organ or part of the body."—*Laryngoscope.*

EYE AND EAR.

IN CHARGE OF

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THE EFFECTS OF NASAL OBSTRUCTION ON ACCOMMODATION.

BY P. W. MAXWELL, M.D., EDIN., F.R.C.S.I.

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In Ireland ophthalmic surgeons are also aurists. For the last ten years I have observed how frequently the same patient seeks advice about his eyes and ears at the same time. On examining these cases more minutely it would appear that the eye symptom is almost invariably accommodative asthenopia, while the ear trouble is chronic catarrh.

It is generally supposed that accommodative asthenopia, when once established, will remain as a permanent condition unless the patient consents to use his eyes less or to wear glasses. When ordering glasses the surgeon generally informs the patient that they will not cure him, but that as long as he wears them he will be free from symptoms, and that, instead of being able to give them up after a time, it is more probable that he will require a stronger pair later on.

This is in the main true, but everyone must have seen cases where the asthenopia subsides and the glasses are given up. In my experience this has happened with comparative frequency in the combined eye and ear cases to which I have referred. These patients received some nasal treatment. This has led me to think that an abnormal condition of the nose might cause asthenopia. At the time that this idea occurred to me I could recall no case in which an asthenope had made any complaint about his nose. This was, however, no disproof, as the majority of cases of catarrhal deafness are unconscious of rhinitis, and are much surprised that nasal treatment should be suggested.

Seeing, therefore, that the condition I wished to investigate was, as a rule, not noticed by the patient, it became necessary where it was suspected to examine the nose and naso-pharynx for myself. Accordingly in every case of accommodative asthenopia, where the degree of hypermetropia or astigmatism was small, the patient young and the vision good, I observed whether the patient breathed through his mouth or nose, and inquired whether he were subject to colds in the head, and if not, whether the opposite condition were present, namely, an uncomfortable dry condition of the nose. Lastly, anterior and posterior rhin-

oscopy were employed. Where the latter was impossible the naso-pharynx was examined by palpation.

I have now come to the conclusion that asthenopes who frequently or habitually breathe by the mouth are more likely to be benefited by nasal treatment than are those in whom the nasal mucous membrane is quite as abnormal, but who can breathe freely through the nose. The most usual causes of nasal obstruction in this connection are adenoids in the naso-pharynx and enlarged turbinals.

Where the nasal mucous membrane is too dry, relief is usually got by sniffing up the nostrils once daily ℥j of common salt with gr. v. of sod. bicarb. dissolved in a tumbler of hot water. If there is too much secretion, ℥j of a mixture in equal parts of common salt, pot. bicarb. and pot. chlorat. should be used in the same way. Adenoids, if large enough to stop nasal respiration, should be removed as freely as possible. Enlarged turbinals which are not reduced after a few weeks' use of one of the above washes, should be scored along their inner surface by a thermo-electric cautery drawn from back to front, the septum being protected by a guard.

Schmidt-Rimpler has shown that carious teeth may cause asthenopia by diminishing the accommodative power.* Irritation of the fifth nerve in the teeth or nose may reflexly inhibit accommodation.

Direct stimulation of the long ciliary nerves causes a dilatation of the pupil, and will also, if accommodation has already been induced by pilocarpin, lessen or abolish it. Jessop, in a most interesting lecture at the College of Surgeons, in February, 1887, showed that, though stimulation of the cervical splanchnic dilated the pupil, it had no effect on accommodation. The origin of the fibres which inhibit accommodation has, so far as I know, not been found out, but they can be traced as far as the Gasserian ganglion. At this point they must come into close relationship with the sensory fibres of the fifth nerve, which probably explains the clinical fact that irritation of the teeth or nose has a special influence in arresting accommodation.

Dr. FitzGerald, of Dublin, at the meeting of the British Medical Association in 1883, showed that many chronic cases of conjunctivitis and blepharitis, especially the latter, resisted all treatment till some concomitant error of refraction was corrected. I have frequently seen cases of old-standing blepharitis under his care recover after glasses were ordered without any local treatment at all. The same result has in my experience often occurred where the nose only has been treated Both sets of cases may be explained in the same way. In hypermetropes the excessive accommodation must determine a greater than usual flow of blood to the eye and its appendages. This habitual congestion will not cause inflammation, but it must tend to keep it up when once otherwise established. Nasal obstruction, by making accommodation more difficult, will tend to act in the same way.

* *Graefe's Archiv.* xiv., p. 107.

TREATMENT OF CORNEAL OPACITIES BY ELECTROLYSIS.

BY EDGAR STEVENSON, M.D.,
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In bringing before the Section this form of treatment, I wish at the outset to emphasize a fact which is well known to all who interest themselves in eye diseases, and especially to those who are connected with large eye clinics—namely, that opacities of the cornea, in which I include all those caused by keratitis, ulcer, or direct injury, are among the commonest, and at the same time the most intractable, of all eye complaints; and I do not think it is any exaggeration to say that, except in infants, and in the very slightest cases in childhood, the recognized treatment by stimulating ointments, or any other of the ordinary means, is a more or less disheartening failure. Indeed, beyond the making of a false pupil, which at the best is generally of doubtful value, and the still more dubious transplantation of the cornea, which appears to have been successful only in the hands of its inventor, I do not think that any surgical procedure for the relief of this affection has been seriously attempted; and it has always seemed to me to be somewhat of a reproach to ophthalmic surgery that an eye, possessing in every other respect all the essentials of perfect vision, should be rendered practically useless by the presence of a small central nebula left by an ulcer from some attack of measles or some digestive trouble of childhood. Any treatment, therefore, which seems to hold out hopes of better results than are usually attained is certainly worth a trial; and I am sure that in electrolysis of the cornea we have a method which in some cases is brilliantly successful, and in all cases will do more good than years of treatment by yellow ointment.

The application of the galvanic current to the eye, is, of course, no new thing, and for this particular class of cases it was tried by Adler some years ago. He reported favourably of it, but used far too strong currents, and his method of application was faulty. His good results were more than counterbalanced by the pain, and occasional damage caused, and the treatment was dropped as too uncertain and dangerous.

I heard of this while working in Germany, and determined to try it for myself on the first favourable opportunity. Since, however, I started experimenting in this direction, I saw that it had been revived in America by Dr. Dennis, of the Erie Eye Hospital, Pa. He appears to have given an exhaustive trial to all the various methods of massage with stimulating ointments, pressure, inunctions, etc., but finds that nothing equals or even approaches electrolysis in good results. I have been in communication with Dr. Dennis, and am indebted to him for some valuable hints and records of cases.

The method that I employ is as follows: the current may be taken from the street main, if the supply be of the constant variety, or may be taken from a good battery; the latter is simpler and more easily managed, and a reliable galvanometer and rheostat must be included in the

circuit. (If the main current is used, the greatest care should be taken in the construction of the switchboard, and a volt regulator and meter must be employed as well as the current rheostat and meter.) The kathode is the active pole, and is applied to the eye by means of a small silver rod with rounded end. The anode is of the ordinary sponge or disk type, and may be applied to the cheek of the patient on the opposite side to the eye to be treated. I find that with everything in proper order a pressure of 1½ to 3 volts is sufficient to give the requisite current. This should be about ¼ m.a., and should never exceed ½ m.a. The eye is cocoanised, and the patient, who should be lying down, is directed to hold the anode on the cheek. The current is then turned on, and the lids being held apart by fingers, the silver rod is rubbed lightly over the opacity for about one minute. The galvanometer should be just beside the patient's head, so that the variation of the current may be watched. The cornea should be kept moist. A slight frothing is generally seen in the track of the rod, but no pain, or at most a slight pricking sensation is felt. A little vaseline is put into the eye, and bandaging should be avoided. If, as sometimes happens, there is any photophobia or lachrymation, it can readily be treated by the ordinary methods. The treatment may be applied every day or at longer intervals; as a rule, I find every other day most suitable. By keeping to this small current, and by not allowing the electrode to rest any length of time in the same spot. all damage to the cornea can be avoided; a current of 1 to 2 m.a., as used by Adler, might easily cause serious mischief.

The length of the course of treatment depends on the density and nature of the opacity. Faint nebulæ, which, however, have resisted ordinary treatment, are disposed of in six to ten applications. The denser opacities begin to clear at the edges, and it requires much perseverance on the part of both surgeon and patient before, in some cases, any great improvement in central vision is noticed. The very dense opacities resulting from sloughing and perforating ulcers I have always regarded as practically hopeless from any point of view, and have avoided wasting any time on them which might be more profitably employed on more hopeful cases.

After 15 to 20 applications of the current it is well to stop the treatment for a month or two, as the cornea appears to get thin and soft, and its curvature may be permanently altered.

I am unable to say what is the exact nature of the change that takes place in the part of cornea treated, whether it be a real electrolytic action, or only an improved method of irritation; it is perhaps a combination of both, but that some electro-chemical action is taking place is shown by the fact that permanent damage may easily be caused if the current be too strong and the electrode be allowed to rest too long on one spot.

To Remove Fish Bones From the Throat.—*Gen. Pract.*—Fish bones can sometimes be expelled from the throat by giving from four to six ounces of milk, and forty minutes later an emetic dose of zinc sulphate. The vomit of coagulated milk carries the bone before it as a rule.

PAEDIATRICS.

IN CHARGE OF

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ADHERENT PERICARDIUM IN CHILDREN.

Swift and Freman of St Mary's Free Hospital for children, New York, conclude as follows in a recent investigation of this subject:—

Cases of adherent pericardium in children, although probably not rare, are apparently frequently overlooked. Our knowledge of this condition has received very valuable accessions recently from Broadbent in England.

Adherent pericardium arises from a single attack of pericarditis or from repeated attacks which may have a sub-acute character. The adhesions may be partial or complete. A marked hypertrophy and dilatation of the heart often accompanies this condition, although in some cases the heart remains normal in size or atrophied. Symptoms arising from embarrassment of the circulation due to this condition are dyspnœa, œdema, ascites and vomiting

The physical signs of adherent pericardium depend on the extent and position of the adhesions and on whether they involve only the two layers of the pericardium or exist between the pericardium and chest wall or adjoining pleura, diaphragm or other parts of the mediastrinum. Of the physical signs often found the following are important:

1. Marked enlargement of the heart is present in many cases, accompanied by various murmurs.
2. Systatic depression at site of apex beat.
3. Systatic retraction of lateral and posterior walls of thorax.
4. Impeded descent of diaphragm in inspiration.
5. Dilatation of the veins of the neck with sudden emptying in diastole.
6. Absence of feebleness of apex beat.

In three of the four cases which they studied the adhesions of the pericardium were complete and were associated with marked cardiac hypertrophy and dilatation, and gave double murmurs at both the apex and base of the heart. In none of the cases was a history of a previous attack of pericarditis obtained. *Arch. of Pœdiatrics*, Oct., '96.

THE PRODUCTION OF ILL-HEALTH AND DEATH BY THE USE OF CARBOLIC ACID AND ALLIED ANTISEPTICS.—Von Stuhlen (*Kinderarzt*, 1896, vii. 42) draws the following conclusions from his investigations of the subject:

1. The use of carbolic acid and allied disinfectants are responsible for shattered health and deaths, but more often is death produced than serious chronic illness.

2. Most accidents are due to carelessness, usually through the careless setting away of the poison, so that a mistake is easily made by exchanging it for other medicines or liquids.

3. Medical poisonings occur very seldom, and when they do occur are usually due to the use of solutions of too great strength.

4. Children and weakly persons are very susceptible to the poisonous actions of antiseptics, particularly to carbolic acid poisoning, and in these patients it is possible that the usual strength of the solution may produce bad effects.

5. The application of carbolic acid to mucous membranes in large quantity is very dangerous, on account of the rapid absorption which takes place—above all is the use of carbolic acid, even in small quantities, dangerous as an injection.

6. It is well to be somewhat skeptical as to the absolute immunity from poisoning by the newer antiseptics. There is no absolute proof that they are perfectly harmless; in fact, a few cases of accidents have already happened through them. They are, however, as a rule, much less dangerous than carbolic acid.

7. The autopsies in cases of poisoning by the above-mentioned antiseptics were not very satisfactory.—*Pediatrics.*

Martin, of Colorado Springs, has an interesting paper in *Arch. of Pœdiatrics* for October on a case of nocturnal enuresis in a male 16 years of age. The affection had existed in very severe form since birth. All the usual remedies had been employed, and on coming under Martin's care, ergotin and atropin made some impression at first on the condition, so that one or two nights a week he might remain dry, but never unless he got up several times a night to empty bladder. During the day the bladder had to be emptied at least every two hours. Examination of the penis, rectum and urine showed nothing abnormal, but the bladder was found to have a full capacity of only four ounces. This gave the necessary hint, as to both cause and treatment, and by careful distension with a Davidson syringe the capacity of the bladder was raised in about two weeks to seventeen ounces. Atropin and ergotin still kept up and faradism applied by varnished sound to neck of bladder, other pole placed upon hypogastrium. As this time patient could generally go all night dry by getting up once. Fourteen months after this, treatment having been discontinued for a year, patient reports himself to wet the bed an average of once a week. Nearly three years afterwards, or about five years after treatment, he reports that without any treatment in the interval, bed-wetting occurs about once a month, though he still rises to void the urine in amounts of about six ounces at a time. Recontraction seemed to have occured, as the bladder could hold by injection one pint easily when treatment was stopped. The condition is interesting, though paralleled in other cases, as when urethral stricture after dilation contracts unless redilated at intervals.

WHEN SHALL ALCOHOL BE GIVEN TO CHILDREN.—Grocz (Budapest) (*Centralblatt für innere Medicin*, Vol. 17, No. 21) warns against the abuse of giving children wine or brandy in an unsystematic way and in reckless doses, as also against the early use of alcoholic beverages. Besides reporting two cases of acute alcoholic intoxication, which evidenced itself in a comatose condition and severe tonic and clonic convulsions, he mentions severe dyspepsias, cases of epilepsy and chorea as the sequel of an early abuse of alcohol. A certain number of neurasthenic conditions in children are to be traced to it. There are only two effects of alcohol to be made use of therapeutically—namely, its stimulant qualities on the heart and as a preserver of tissue. In its first property it may be a direct saver of life, in cases where a sudden collapse of strength and rapid heart failure makes its appearance; also in acute infectious diseases, in the collapse of infants suffering from intestinal troubles and in great loss of blood. As a conserver of tissue it may be given in chronic complaints which have a tendency to gradually weaken the system (rhachitis, tuberculosis and scrofulosis). As a general rule the principle should be adhered to that alcoholics be only given children for therapeutic purposes, and exclusively for the above indications.—*Pediatrics*, Aug., '96.

TREATMENT OF POST-SCARLATINAL DROPSY IN CHILDHOOD.—F. Schmey (*Allgem. Medic. Central. Zeitung*, 1896, No. 1) has for ten years followed successfully the plan here given in numerous cases. The child is wrapped from head to foot in a wet sheet, then tightly wound in a woollen blanket. The patient now receives every hour a teaspoonful of Syr. Jaborandi (Preparation: 0.3 grm. fol. jaborandi are heated in a steam bath with 20 grm. water for ten minutes, the strained liquid filtered and 10 grm. of sugar dissolved in it by boiling) until free perspiration takes place. Only then is he freed from his covering. This is to be repeated daily until the œdema has been removed, which usually is effected within two or three days. There have never been any annoying consequences. In children over fifteen years old, he gives pilocarpine hypodermatically, and places the child in a hot bath before packing in the sheet.

CONGENITAL TEETH.—Ballantyne, of Edinburgh, after a careful study of seventy cases, arrives at the following conclusions in a paper published in the Edinburgh *Medical Journal*, No. 491, 1896:

1. Congenital teeth form a rare anomaly, but one which has long been known both to the profession and to the public.

2. Their presence has often an ill effect upon lactation, partly on account of the imperfect closure of the infant's mouth, and partly by the wounding of the mother's nipple; sublingual ulceration may also be a result, and infantile diarrhœa and atrophy are more distant consequences. Sometimes, however, symptoms are altogether absent.

3. Congenital teeth have probably little or no prognostic significance as regards the bodily or mental vigour of the infant carrying them.

4. The teeth usually met with are lower incisors, but sometimes upper incisors may be seen, and very rarely molars of either the upper or lower

jaw. Other facial or buccal malformations may occasionally be met with.

5. They are caused by the premature occurrence of the processes which normally lead to the cutting of the milk teeth; in a few cases it would seem that the anomaly is due to a true ectopia of the dental follicle and its contained tooth.

6. In a few instances a hereditary history has been established.

7. As congenital teeth are usually incomplete and ill-developed, and likely to be more an inconvenience than an advantage to the infant, they are best removed soon after birth, an operation which can be easily, and, except in very rare instances, safely performed.

8. The occurrence of premature teeth in certain well-known historical personages is an interesting fact, the importance of which has been much exaggerated.—*Archives of Pediatrics.*

[NOTE.—With regard to conclusion No. 3, the only case known to the writer was undoubtedly one of very well-marked idiocy, the other evidences of deficiency, both physical and mental, being abundant.]

BATHING.—The newly-born babe must not remain uncovered for any length of time. The nurses who spend—with more pedantry, emphasis and self-consciousness than intelligence—much unnecessary time in oiling and soaping and washing and bathing, turning this and that way, drying the surface, wrapping the navel, applying the bandage, and dressing the newly-born in fineries, in which it finally arrives, shivering with a cold nose and blue feet, are not infrequently the causes of ill-health or death. In a case recently seen, the pneumonia of the newly-born was undoubtedly due to the fact that the baby was neglected while both physician and nurse were engaged about the fainting mother. Craig must have seen many such cases, for with him, "no baby is ever washed, dressed, fed, tied up; the cord is not wrapped up, but the infant is anointed with fat and wrapped in flannel the first twenty-four or thirty-six hours."—A. Jacobi, *Pediatrics.*

POST MORTEM DELIVERY.—The following case illustrating certain factors of much medico-legal importance, which underlie post-morten delivery, has lately been reported in the *London Lancet:* A twenty-year-old primipara, in the last month of pregnancy, died suddenly from eclampsia. Two hours after death she was laid out on a bed covered with a sheet. Fifty-three hours afterward an autopsy was made at the direction of the court. There was then found between the thighs of the girl a fully developed child with the back upward, the chin on the breast, the legs extended at the knees, but fixed at the hips with the feet near the chin. The fundus of the inverted uterus was visible outside the vulva, with the placenta hanging from it. The funis was uncommonly short. After removal of the placenta the uterus was replaced, but the intra-abdominal pressure immediately expelled it again. There was considerable laceration of the perineum, but no sign of blood on the bed. The body was already advanced in decomposition.

The Canada Lancet

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The Largest Circulation of any Medical Journal in the Dominion.

Editorial.

RETRODISPLACEMENT OF THE UTERUS.

To the general practitioner, as well as the specialist, the above form of uterine disease is always of paramount importance. It will be interesting, therefore, to our readers to note the results of one hundred and ten operations done for such displacements by A. Lapthorn Smith, M.D., of Montreal. In forty-two cases Alexander's operation of shortening the round ligaments was done and in sixty-eight ventro-fixation, or suspensio-uteri, was resorted to. Dr. Smith feels justified in coming to certain conclusions concerning those two operations, having been performing them for over six years.

Most of the patients had been seen and examined not only by himself but also by many other physicians and students attending his clinics, while the few who had not been seen had been heard from through the physicians who had sent them to him. The results of both operations had on the whole been very satisfactory, with the exception of two cases, in which the ligaments broke, being very fatty, and also partly owing to the method of operating, which he has since improved; in one of these cases he immediately performed ventro-fixation with good results; the other was a complete failure, having declined further operation. Also in one of the Alexander cases the uterus remained in good position for six months, when it began to fall a little. The failures all occurred among his earlier cases, none having occurred among those operated upon during the last two years. So far no case of hernia had resulted from the operation. The ventro-fixations gave even better results than the Alexanders. They were performed for the most part upon women who not only had retroversion with fixation, but the ovaries and tubes were at the same time prolapsed and bound down by more or less dense adhesions. In many of these, also, there was laceration of the cervix and perineum with cystocele and rectocele. In those cases in which he had performed seven operations at one sitting occupying from an hour and ten minutes to an hour and a-half, he had obtained the most gratifying results. These operations were: 1st, rapid dilatation with Goodell's

dilator; 2nd, curetting with Martin's curette; 3rd, repair of lacerated cervix by Emmett's method, or amputation by Schroeder's method; 4th, tightening up the relaxed anterior vaginal wall by Stoltz's method; 5th, repair of the perineum by Hegar's method; 6th, removal of diseased tubes and ovaries, and breaking up all adhesions binding uterus down; and 7, scarifying the anterior surface of the uterus and posterior surface of abdominal wall, and stitching the uterus to the latter by two fine buried silk sutures, most carefully sterilized. The disasters following ventro-fixation were two hernias and one relapse, all of which were subsequently remedied by a second operation. At the present time Alexander's operation has no death rate, while ventrofixation, while it has not any death rate in simple non-adherent cases of retroversion, yet it must have a small death rate, at least when it follows the removal of very bad pus tubes.

He had performed both Alexanders operation and ventro-fixation for prolapse as well as for retroversion, and as the results were excellent provided the pelvic floor was at the same time repaired, he much preferred these operations to vaginal hysterectomy for prolapse, as an operation which he had performed a few times, and found easy, but which he hardly felt justified in doing.

Although several of the Alexanders had subsequently become pregnant, in no case did any untoward accident happen. But he had heard that some one on whom he had performed ventro-fixation had subsequently become pregnant and aborted, but he had so far been unable to verify it. He was not aware that any of them had even become pregnant. This was probably owing to the fact that he had in most of them removed the tubes and ovaries, while in those in which he had left one or both ovaries and tubes, they were diseased and unable to functionate. He was frequently asked which of the two operations he preferred. This was difficult to answer. Alexander's was safe, but he preferred ventro-fixation, because it had given him the best results. He would probably continue to do Alexander's operation in young married or marriageable women in whom the ovaries and tubes were perfectly free from organic disease; while he would reserve ventrofixation for women who were sterile or who had marked adhesions, and who had suffered so much and so long in spite of treatment that the appendages had to be removed.

THE ACTION OF BISMUTH SUBNITRATE.

The subnitrate of bismuth is one of the most frequently prescribed of the whole list of drugs. We were taught that its action in disease of the stomach, where it finds its most frequent application, is chiefly, if not entirely, mechanical, like that of charcoal or binoxide of manganese. While it no doubt has a beneficial mechanical effect, recent investigations by Carles, *Br. Med. Jour.*, Gayon and others have proved that it has a powerful bactericidal action, and that an easily decomposable solution containing subnitrate of bismuth keeps indefinitely. Gosselin and Heret have made it useful for cleansing putrid wounds. To understand its ac-

tion when given internally, one must remember that the purest specimen tends to split up into bismuth oxide and nitric acid when in contact with water. (1) Action on the stomach. The oxide, which is in excess of the acid, acts first as a detergent to the gastric mucous membrane and precipitates the mucus, and, secondly, exercises its germicidal power. The nitric acid has a tonic astringent and also antiseptic power. (2) In the intestine it meets with sulphuretted hydrogen gas, which converts it into black sulphide, thus liberating a further portion of its acid, which is again partially transformed into nitrous vapours, the antiseptic action of which has been proved by Girard and Pabst. For these reactions to take place, it is necessary: (1) That the subnitrate should be pure and not mixed with carbonate. (2) That it should be as finely powdered as possible. This latter point is easily proved in the laboratory.

JENNER'S EPITAPH.

Within this tomb hath found a resting place—
The great physician of the human race—
Immortal Jenner!—whose gigantic mind
Brought life and health to more than half mankind.
Let rescued Infancy his worth proclaim,
And lisp out blessings on his honored name;
And radiant Beauty drop one grateful tear,
For Beauty's truest friend lies buried here.

Dr. Jenner died January 26th, 1823, aged 74.

CONFIRMATION BY BACTERIOLOGIC DIAGNOSIS OF EPIDEMIC CEREBRO-SPINAL MENINGITIS.—When Heubner announced his discovery on the living of the microbe of this disease, he remarked that lumbar puncture would become still more important as a means of differentiation. Fürbringer now reports several cases (*Deutsch. Med. Woch.*) diagnosed by lumbar puncture promptly and accurately, with the discovery of the meningococcus intracellularis in the spinal fluid. The cultures showed the characteristic diplococci enclosed in the capsules which refracted the light like a halo around them. The cocci were often assembled in four, six and eight pairs, especially in the older cultures. The median dividing line in the pairs of cocci forming tetrads was very distinct and noticeable. Gram's solution usually decolourized them like the gonococcus, but occasionally the microparasites partially retained their colouring.

CHLOROFORM ANESTHESIA PRODUCED DURING SLEEP.—The experiments of Dolbean, of administering chloroform vapours to persons physiologically asleep and affected with somatic diseases, have been repeated by Dr. R. Gurriere, upon persons who had passed through some mental disease, but were cured so that their discharge could take place a short time after the date of the experiments, and who were perfectly healthy physically. *Riv. Spr. Fren.; Jour. Nervous and Mental Disease.*

The *technique* was to begin the administration of the chloroform very cautiously. A handkerchief drenched with chloroform was first kept about 3 inches from the nostrils, then gradually approached. If reflex movements or wiping off the nose with the hand followed, a short interruption was made. The patients were not informed what was going to be done with them, all possible precautions were taken not to make them suspect anything. The result of the experiments was positive in 4 cases out of 9 examined ones. In one of the cases which gave a negative result the experiment was repeated and was a success after one-twelfth grain of morphine had been given to the patient without his knowledge, some hours before bedtime. The narcosis was not pushed to the degree required for surgical operations, but only to the extent necessary to leave no doubt as to the presence of anesthesia. The limbs were perfectly relaxed; flapping the body and making noise did not awake them; only by forcibly shaking did they finally become conscious. The next morning, however, they did not remember that they awoke during the night, and had not the least idea that chloroform had been administered to them. The result of the experiments is important from a medico-legal point of view, as it proves the possibility of bringing about an anesthesia in a person during sleep, for criminal purposes.

ALCOHOL IN THE TREATMENT OF CARCINOMA.—Dr. H. C. Howard reports (*Medical Standard*), satisfactory results from hypodermic injections of absolute alcohol, to which, if there is an open ulcerating surface, is added from 15 to 25 per cent. of tannic acid; this solution is also employed as a dressing to the surface. Of carcinoma of the breast he says: "I have employed this treatment in ten cases. Nine of the patients recovered and are in good health; in one case secondary extension to the liver took place. In these cases it is my custom to pass the needle through and below the tumour and during the retraction of the needle to inject ten or fifteen minims of absolute alcohol into the tumour. This injection is repeated in four or five points in the tumour. The injections are repeated at intervals of two or three days and the time required for the complete removal of their growth is ordinarily about three months."

CURRETAGE AS A METHOD OF INDUCED ABORTION.—Puech presents the following conclusions (*Ann. de Gyn. et Obst.*):—(1) Curettage should have a place among the approved methods of artificial abortion. (2) Before the fourth month it is efficacious and free from danger. (3) It should be adopted, particularly whenever rapid evacuation of the uterus is indicated. (4.) It should be adopted whenever economy of blood is especially indicated—in anemia and enfeeblement from any cause. (5) In intractable vomiting; particularly is it indicated by two reasons already advanced—rapidity in performance and economy in blood.

HYPERIDROSIS.—An alcoholic solution of formalin, says *The Med. Rev.*, of the strength of from ten to twenty per cent., will speedily check excessive sweating. Tannoform, a mixture of formalin and tannin, dusted on the affected part acts favourably in hyperidrosis or bromidrosis.

A HIGH REPUTATION SUSTAINED.—*The Medical Times and Hospital Gazette*, London, May 30th, 1896, speaks so favorably of its experience with the American analgesic, antipyretic and anodyne, a preparation the medical profession has become accustomed to regard as one of the certainties of medicine, that we reprint below its words of approval, knowing them to be in accord with the consensus of opinion as expressed by the medical men in this country. "Antikamnia—under the above name, a free translation of which is 'opposed to pain'—now being introduced to the profession in the United Kingdom is an analgesic, antipyretic, and anodyne drug, which has already gained a high reputation in the United States. It is a coal-tar derivative, and belongs to the series which form the various amido compounds. It differs therapeutically, however, from most coal-tar products in producing a stimulating, instead of a depressing action on the nerve centers, especially those acting on the heart and circulatory system; hence, it may be administered, even in large doses, without fear of producing collapse and cyanosis, as occasionally occurs after the administration of antipyrin and other similar analgesic compounds. It has been very largely used in influenza, hay fever and asthma, with good results; but its most markedly beneficial effects are experienced when administered in neuralgia, rheumatism, sciatica, headache and pain due to disorders of menstruation. As an antipyretic, it is recommended to be given in doses of from five to ten grains every ten minutes, until the temperature has been reduced, or until forty or fifty grains have been taken, after which the remedy should be given at intervals of greater length. To relieve pain it is recommended to begin with a five grain dose; three minutes later the same dose to be repeated, and if the pain continues, a third dose to be given a few minutes after the second. In our practice we have not found it necessary to give the remedy at such short intervals. In the treatment of neuralgia and headaches we have had satisfactory results from giving five-grain doses at intervals of ten to twenty minutes, until three or four doses have been taken. We may add that the drug is sold in tablets (three and five grain sizes) as well as in the powdered form. The former may be swallowed whole, or crushed and dissolved in glycerine and water, or in an alcoholic menstruum. The powder is conveniently given in cachets, or dissolved in a little wine or aromatic tincture, combined with glycerine or syrup. The drug is deserving of trial, and those among our readers who have not yet tested it should write for a sample."

FOR RINGWORM.—An ointment of resorcin containing thirty to forty grains to the ounce is serviceable in the treatment of the various forms of trichophytosis. Although it is not superior to other remedies of this class, it has the advantage of being a cleanly application, far more so than sulphur and tar which are so commonly employed as parasiticides. In tinea versicolor an alcoholic solution, twenty to thirty grains to the ounce, may be painted over the affected area with a large camel-hair brush nightly, until free desquamation takes place. If the disease is not completely cured when desquamation is completed, the application may be repeated a second or third time.—*Hartzell, Therap. Gaz.*, 1896, *xx.*, 363.

THE LOYAL SURGEONS OF THE REVOLUTIONARY WAR.

To the Editor of THE CANADA LANCET :—

SIR,—Having had occasion during a recent visit to England to make a search for some facts relating to the American Revolutionary War, I came across the names of many of the surgeons of the Loyalist Volunteer regiments. It occurred to me to rescue them from oblivion by publishing the list. Since my return I find that Dr. Canniff, in his admirable work on the "Medical Profession in Upper Canada," has collected many of them. Incidentally the list is of interest in bringing to recollection he names of some of the loyal corps which have been well nigh forgotten. I have been unable to obtain personal data of any importance.

James Lynah, Director General of Military Hospitals.
Wm. McKinstry, Surgeon General of Hospitals.
Richard Bell, Surgeon, Royal Garrison Battalion.
Walter Cullum, Surgeon, Royal Fencible Americans.
Lewis Davis, Surgeon, King's Rangers.
Charles Doughty, Surgeon, DeLancy's 3rd Batallion of Vols.
Alexander Drummond, Surgeon, King's American Regiment.
R. Tucker, Surgeon's Mate, King's American Regiment.
Timothy Dwight, Surgeon's Mate, King's American Dragoons.
Philip Hatchell, Surgeon, Loyal American Regiment.
Wm. Edwards, Surgeon's Mate, Loyal American Regiment.
Thomas Gibb, Surgeon, New York Volunteers.
Gregory Gray, Surgeon's Mate, British Legion.
John Hammell, Surgeon, 3rd Battalion New Jersey Vols.
John Huggerford, Surgeon, Loyal American Regiment.
John Johnson, Surgeon, DeLancy's 2nd Battalion of New Jersey Volunteers.
Archibald Macdonald, Surgeon, Guides and Pioneers.
Murdoch McLeod, Surgeon, North Carolina Loyalists.
Joseph Merren, Surgeon, Georgia Loyalists.
Wm. Patterson, Surgeon, 2nd Battalion New Jersey Volunteers.
J. Peterson, Surgeon, 2nd Battalion New Jersey Volunteers.
John Piper, Surgeon's Mate, North Carolina Highland Regiment.
Nathaniel Smith, Surgeon, DeLancy's 1st Battalion.
William Stofford, Surgeon's Mate, Maryland Loyalists.
Nicolas Humphries, Surgeon, New Jersey Volunteers.
Absolum Bainbridge, Surgeon, New Jersey Volunteers.
John Smith, Surgeon, Connolly's Corps.
Nathan Smith, Surgeon, Rhode Island Loyalists.
Wm. C. Wells, Surgeon, Georgia Loyalists.
James Davidson, Surgeon, Royal Canadian Volunteers.
Cyrus Anderson, Surgeon's Mate, Royal Canadian Volunteers.

It will be noticed that in some instances two or more names are given as surgeons of a corps; the explanation probably is that there were changes in the personnel of the corps. I cannot find any trace of such functionaries as stretcher bearers or ambulance men. It was only during

the Peninsular war, thirty years later, that the Director General, Sir J. McGrigor, attempted first to organize a field hospital and transport for sick and wounded.

Yours,

Toronto, Sept. 21, 1896. G. STERLING RYERSON.

APENTA (APERIENT) WATER.

BY CHARLES R. C. TICHBORNE, F.I.C., F.C.S.,

Dip. in Public Health and L.R.C.S.I. ; Analyst to the County of Longford ; Author of "Mineral Waters of Europe," &c.

The Apenta Water was submitted to careful analysis, and the figures given below represent the composition of this water as bottled by the Uj Hunyadi Company, Limited, at the Uj Hunyadi Springs, Buda Pest.

Apenta Water belongs to that large class of aperient waters which come from the neighborhood of Buda Pest, commonly known under the generic name of Hunyadi, such as Hunyadi Mattyas, Hunyadi Janos, Hunyadi Lajos, Hunyadi Ferenez, Hunyadi Alajos, &c.

We learn that the Uj Hunyadi Springs, from which the Apenta Water is drawn, have been placed under the control of the State Chemical Institute of the Ministry of Agriculture of Hungari, and the bottling of the water takes place subject to the direct supervision of this Department.

The writer examined this water many years ago, and finds that it is constant as regards its general characteristics. This water, on careful analysis, gave the following as its composition in parts per 10,000:—

	Parts per 10,000.
Magnesia (MgO)	70·2
Lime (CaO)	11·5
Iron (Fe_2O_3)	0·43
Alumina (Al_2O_3)	0·30
Silica ($Si O_2$)	0·32
Potash (K_2O)	0·45
Soda (Na_2O)	92·45
Lithia Li_2O)	0·20
Sulphuric Acid ($S O_3$)	259·66
Chlorine (Cl)	10·81
Bromine (Br)	0·10
Carbonic Acid ($C O_2$)	3·94
Fluorine	trace
Ammonia	trace

When arranged and calculated, according to their affinities, these results give the following as to the composition of the Apenta Water:—

	Grns. per Gal.	Parts per 10,000.
Magnesia Sulphate	1474·2	210·6
Magnesia Carbonate	12·8	1·82
Magnesia Bromide	0·85	0·12
Sodic Sulphate	1307·9	186·84

	Grns. per Gal.	Parts per 10,000.
Calcic Sulphate	184·31	26·33
Potassic "	5.92	0·84
Lithic "	5·31	0·75
Sodic Chloride	123·80	17·69
Fluorine	traces.	—
Sodic Carbonate	33·47	4·78
Calcic "	8·20	1·17
Ferrous "	5·42	0·77
Ammonia (free and albuminoid) traces	0·004	0·0005
Alumina	2·10	0·30
Silica	2·24	0·32
Total (Anhydrous) Solids	3166·56	452·3

Carbonic Acid Gas not determined.

The above salts are all estimated in their anhydrous condition, and the carbonates of lime and magnesia directly determined in the precipitate obtained on boiling. This water is practically free from organic matter, and when examined bacteriologically with nutrient gelatine, seemed to act almost as a preservative when placed in the incubator—rather than as a carrier of germ life.

The Apenta Water is a strong purgative water, containing the two valuable aperient salts known as Epsom salts (or sulphate of magnesia) and Glauber salts (or sulphate of soda) in large proportions, the former preponderating in a very marked degree, and thus giving to the water the right to be styled a bitter water, and one which for the same reason is most pleasant to the palate, and is highly valued by the medical profession. The result is a purgative combining a secretion-promoting and peristaltic action.

The tumbler (10 ozs.) of this water would contain—

Purgatives.	Antacids.	Salines.
370 grains.	3·6 grains.	8·5 grains.

This Apenta Water, however, possesses special properties which are found combined in a very few natural mineral waters, and which specially marks it out for the treatment of gouty patients.

First amongst these peculiarities is the large amount of lithia, which is almost unique amongst strong purgative waters. The lithia sulphate was directly estimated after separating it by alcohol. It is also markedly chalybeate, although not excessive in astringent properties.

When examined with litmus paper, it shows a faint acid reaction, due to free carbonic acid. On boiling this off, it is found to be alkaline, chiefly from the presence of sodium carbonate. This alkalinity is a most desirable adjunct to a water of this character. The presence of a small proportion of bromine is of some therapeutic value.

To sum up my remarks upon the Apenta Water, we may say that, taken as a whole, we could hardly wish for a more happy combination for a strong aperient water, both for general use, and as a special remedial agent. From a bacteriological point of view, it is everything that can be desired.—*Medical Press and Circular, 25th March,* 1896.

FIGURES SPEAK FOR THEMSELVES.

During the past year Messrs. John Wyeth & Bro. have sold over 500,000 bottles of their nutritive preparation, Liquid Malt Extract, and they claim that each month the demand is increasing. It is not only held in favour by the public, but the medical profession throughout the Dominion have no hesitation in endorsing all the claims that have been made for it. J. B. McConnell, Esq., M.D., one of the leading physicians in Montreal, in a letter dated October 6th, says: "I have for a number of years freely prescribed Wyeth's Liquid Malt Extract, and it always gives the results expected of it and desired."

The preparation is a most palatable and valuable nutrient, tonic and digestive agent, and contains the smallest amount of alcohol found in any liquid preparation of malt. It is particularly adapted to nursing mothers.

THE ALKALOIDS OF COD LIVER OIL.

The alkaloids of Cod Liver Oil are stimulants to the appetite, digestion and process of tissue building, and the fatty matter of Cod Liver Oil is utterly unfit for food on account of its nauseous taste, tendency to cause eructations and to disorder the stomach. In the alkaloids reside the virtues of the oil, not in the fatty matter. As a food the fatty matter has nothing to recommend it in place of butter and cream, which are far more palatable and digestible.

The reason why a man can sometimes gain a pound a day on an ounce of Cod Liver Oil can be found by reading the account of the physiological action of Cod Liver Oil alkaloids as contained in the paper read before the French Academy of Medicine by M. M. Gautier and Morgues, and entitled "Les Alcaloides de L'Hulle de Foie de Morue."

It is due to the presence of the alkaloids which stimulate the appetite, digestion and tissue building. Appetite causes him to eat a larger quantity of food with relish, digestion is set to work by the alkaloids—not by the fatty matter of the oil; digestion gets the pound for him out of his common food; and the metabolic power of the body stimulated by the alkaloids builds that food into healthy tissue. Therefore, why give the nauseating fatty matter when you can gain the same end in a better way by prescribing Stearns' Wine of Cod Liver Oil. It contains the alkaloids of Cod Liver Oil—none of its nauseating fatty matter. It is pleasant to take, agrees with the most delicate stomachs, and when given to your patient with his food will aid in its digestion and assimilation, and will "rebuild the body."—*The New Idea.*

We note with pleasure that The Holgate, Fielding Co., of Toronto, are introducing a number of new pharmaceutical preparations, amongst them "CARNOGEN," which has been well received by the profession in the United States and Canada. We would especially draw your attention to their advertisement on another page.

Book Reviews.

YEO ON FOOD IN HEALTH AND DISEASE.

New Edition Just Ready.

FOOD IN HEALTH AND DISEASE. By I. BURNEY YEO, M.D., F.R.C.P., Professor of Therapeutics in King's College, London. New (2d) edition. In one 12mo. volume of 592 pages, with 4 engravings. Cloth, $2.50. *Series of Clinical Manuals.*

The subject of this volume is one of unexcelled importance. The character, force and destinies of nations are determined in large measure by the average of their food, and in sickness the results obtained by physicians often depend more upon proper nutrition than upon drugs. Conversely errors in the prescription of diet may be quite as serious as mistaken medication. In this authoritative volume Professor Yeo, one of the ablest therapeutists, furnishes specific guidance for the physician in the proper use of foods in the various diseases, approaching the subject naturally and rationally from the qualities and values of foods in health. Every physician will therefore find in this compendious and convenient work an aid of the utmost value.

HARE'S PRACTICAL DIAGNOSIS.

PRACTICAL DIAGNOSIS. The use of Symptoms in the Diagnosis of Disease. By HOBART AMORY HARE M. D., Professor of Therapeutics and Materia Medica, in the Jefferson Medical College of Philadelphia, Laureate of the Medical Society of London, of the Royal Academy in Belgium, etc. In one octavo volume of 566 pages, with 191 engravings and 13 full-page colored plates. Cloth, $4.75.

The experience of the author in both didactic and clinical teaching has shown that the all-important subject of diagnosis can be relieved of much of its difficulty by treating it exclusively from a clinical standpoint. The object of this volume is to place before the physician and student a guide to this art as it is actually used in practice. To accomplish this the symptoms used in diagnosis are discussed first, and their application to determine the character of the disease follows. Thus, instead of describing locomotor ataxia or myelitis, there will be found in the chapter on the Feet and Legs a discussion of the various forms of and causes of paraplegia, so that a physician who is consulted by a paraplegic patient can in a few moments find the various causes of this condition and the differential diagnosis between each. So, in the chapter on the Tongue, its appearance in disease, both local and remote, is discussed. In other words, this book is written upon a plan quite the reverse of that commonly followed, for in the ordinary treatises on diagnosis the physician is forced to make a suppositious diagnosis, and, having done this, turn to his reference book and read the article dealing with the disease supposed to be present, when if the description fails to coincide with the symptoms of his case he must make another guess and read another article. In this book, however, the discovery of any marked symptom will lead directly to the diagnosis. Thus, if the patient is vomiting, in the chapter on Vomiting will be found its various causes and their diagnostic significance, and the differentiation of each form of this affection from any other.

JACKSON'S READY-REFERENCE HANDBOOK OF SKIN DISEASES.

THE READY-REFERENCE HANDBOOK OF DISEASES OF THE SKIN. By GEORGE THOMAS JACKSON, M D., Professor of Dermatology, Woman's Medical College of the New York Infirmary and in the University of Vermont, Chief of Clinic and Instructor in Dermatology, College of Physicians and Surgeons, New York. New (2d) edition. In one 12mo. volume of 589 pages, with 69 illustrations and a colored plate. Cloth, $2 75.

This volume fully deserves the title aptly chosen for it. The classification of skin diseases according to their natural relationship is appropriately explained, but the body

of the volume is devoted to the various affections under an alphabetical arrangement. The practitioner and specialist will thus find it a prompt and ready source of knowledge on all the points of terminology, symptoms, varieties, etiology, pathology, diagnosis, treatment and prognosis of dermal affections. Tables of differential diagnosis and standard prescriptions will be found scattered through the text and the work ends with an appendix of well-tried formulæ. The series of illustrations is rich and instructive.

DEFORMITIES—A TREATISE ON ORTHOPŒDIC SURGERY—INTENDED FOR PRACTITIONERS AND ADVANCED STUDENTS.—By A. H. TUBBY, M.S., Lond., F.R.C.S., Eng., etc., etc , etc. Macmillan & Co., Ltd., London. Copp, Clark & Co., Toronto.

This handsome and copiously illustrated volume will be prized by surgeons interested, as all are more or less in the orthopœdic branch of their profession. Beginning with the Deformities of the Spine, which it treats fully and illustrates clearly, it goes on to take up deformities of the neck. chest and upper extremities, rachitis, deformities of the lower extremities, and finally the various deformities arising from ankylosis, congenital displacements from cerebral and spinal paralysis. The book is well up to date, and the illustrations are so numerous and so good as of themselves to make it attractive. There are no less than fifteen plates and 302 figures in an octavo volume of 598 pages. The author holds many excellent appointments in connection with his specialty in London, England. and we can commend his work as a good one, as his opportunities for seeing and doing surgery of this kind are in the world's metropolis unsurpassed.

Publications of **LEA BROTHERS & CO.** *Philadelphia and New York.*

CANADIAN REPRESENTATIVES: McAINSH & KILGOUR.

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The Canada Lancet.

VOL. XXIX.] TORONTO, DECEMBER, 1896. [No. 4.

CASE OF CEREBELLAR ATAXIA.

BY CAMPBELL MEYERS, M.D., M.R.C.S., ENG., L.R.C.P., LONDON.,

Neurologist to St. Michael's Hospital, Toronto.*

As cases of hereditary cerebellar ataxia are still very uncommon, I take much pleasure in presenting this patient to the Association. His history, taken from my case-book, is as follows:—"W. S. consulted me December 24, 1895; æt. 16. He is the only child. Has been attending school until the present. In regard to his family history, his paternal grandmother died at 75 from diabetes mellitus. His maternal grandmother died of consumption, and maternal grandfather from locomotor ataxia. His mother is of a nervous disposition, but is otherwise quite healthy. His father, who is present, enjoys good health, and there is no suspicion of any specific history. I can find no trace of any similar affection among his relatives.

In regard to his previous history, forceps were used at birth, but the labor was not prolonged, nor attended by any serious difficulty. He began to walk early, and no defect in his development or health was noticed until he was three years of age, when he began to suffer from diabetes *insipidus*, which continues at present. Five years ago sugar in considerable quantity was found in the urine, but disappeared after about three months' treatment. In regard to his present illness, his father says that he first noticed that his gait was affected three years ago, and it has grown steadily worse. His speech at this time was noticed as being peculiar. His general health has been fairly good, except that he suffers from obstinate constipation. The thirst has been extreme, the patient drinking about three quarts of water each night, and he passes about 150 ounces of urine in 24 hours.

PRESENT CONDITION:—Patient is a well-developed boy, and has no noticeable deformity of head or body, except that the arch of the palate is high. The knee jerks are decidedly increased, and there is a moderate ankle clonus on both sides. If either foot is forcibly flexed, and the tendo Achilles tapped with a percussion hammer, trepidation on the foot

*Read before the Canadian Medical Association, 1896.

The first description of this disease published in Canada appeared in the LANCET (January and February, 1894), being a translation of Marie's original article by the author of the present paper.

is set up, which continues as long as the upward pressure is maintained. The reflexes of the wrist and elbow are very active, and the same may be said of the superficial reflexes. Jaw jerk is absent. There is no disturbance of sensibility on any portion of the body. The gait is uncertain and staggering, the feet being placed widely apart. He is unable to start to do anything quickly. On attempting to walk he hesitates for a moment, then starts, walks with uncertainty, and turns around with difficulty. On being asked a question he hesitates an instant and then replies in a slow and scanning manner, the separate syllables all being pronounced. Movements of the muscles of the face are slow, which gives him an unusual expression. The innervation, however, seems equal on the two sides, and these muscles do not remain unduly contracted, nor is undue contracture found in any of the skeletal muscles. His movements generally are awkward. He says, at school boys would poke fun at him because, when laughing heartily, he could prevent himself from falling backwards only with difficulty. He has a certain amount of difficulty in bringing his finger-tips together, with eyes closed. There is some titubation on standing with his feet together, which becomes more marked when his eyes are closed. He cannot retain his balance when one foot is placed immediately before the other, with the eyes open, at once falling sidewise. (Dynam. R. 77, L. 60). No defect in smell, hearing, or taste. Discs normal. Conjunctivæ will bear touch quite well. He says they are tickled. Patient is fairly bright. Urine sp. gr. 1008, pale and clear, no sugar or albumen.

January 4.—Patient's gait is somewhat better. He does not hesitate so long in starting, or stagger so much. Knee jerks same, but ankle blonus less marked.

April 4th.—He jerks not so excessive; no ankle blonus. Tap on tendo Achilles, with foot flexed, does not induce lasting trepidation. Gait much the same. He has had night emissions about once a week recently.

July 20.—Knee jerks and reflexes of upper extremities still very active. Gait unsteady and staggering. Difficulty in standing with feet together still marked, with eyes open, and Romberg's sign is present. Patient has not been attending school since last December, and his general appearance is improved. I am indebted to my friend Dr. Ryerson for a chart of the fields of vision, in which it will be noticed that there is a bilateral contraction in the outer part of the field of vision for white, a more marked concentric contraction for red, and a decidedly contracted field for green. Central color sense is good. There is irregular contraction of pupils. No appreciable heteroproria with phorometer, though the right eye appears disposed to roll upwards. There is slight nystagmus if eyes are fixed in an upward position.

In regard to the pathological anatomy, the only autopsies I have been able to discover were those of Fraser and Noune. In both these the striking feature is atrophy of the cerebellum. In Fraser's case it weighed only 81 grammes, and in that of Noune 120 grammes, or a loss of more than quarter the normal weight, which is from 150 to 170 grammes. Fraser states that the only change is in the grey cortex of cerebellum,

which is much reduced in amount. The white matter is normal in quantity. The microscope shows alterations in the cells of Purkinje, and in many places their entire absence. In both cases above mentioned the cord showed no changes under the microscope. The diagnosis from Friedreich's disease is easily made if we follow the example recently given by Brissaud in a case resembling this disease, as he eliminated it at once on account of the exaggeration of the reflexes. In addition to this, however, we have bilateral contraction of the field of vision, on which Marie lays so much stress; further, an absence of cypho-scoliosis and of talipes, both of which are very common in Friedreich's disease. Hence, I think this case must be placed with those described by Marie as forming a distinct group, which he has named hereditary cerebellar ataxia. The diminution in the excess of the reflexes is another point in favor of the purely cerebellar form of the case in question, since had the excessive reflexes been due to a sclerosis in the pyramidal tracts, for example, no diminution in their intensity would have taken place.

In regard to heredity, except for the fact that the maternal grandfather died of ataxia, there is nothing worthy of note, and any tendency for ataxia to have been transmitted in this case was through the mother, which, moreover, is the usual channel. As he is the only child, it is necessarily impossible to discover any familial traces of degeneration, and I cannot learn of any similar affection in any cousins.

The polyuria is an interesting feature of the case before us. Erb has recorded it in one of his cases of Friedreich's disease, but I am not aware that the autopsy on this case has been published. That the patient's paternal grandmother died of diabetes mellitus is worthy of note, especially in view of the recent contributions of Prof. Ebstein on diabetes and epilepsy.

A CRITICAL REVIEW OF THE MODERN METHODS OF OPERATION FOR THE CURE OF INGUINAL HERNIA.

BY J. COPLIN STINSON, M.D., C.M., SAN FRANCISCO.

During the past few years so much has been written on the operative treatment of hernia, that further discussion would seem superfluous. In the face of all this discussion, one sees this surgeon performing by a method of operation which is incomplete, that surgeon by a method which involves the principle of cicatricial tissues forming a barrier, another introducing extraneous substances, another displacing and disarranging the structures, and still another employing an operation which restores the structures durably to their normal positions, relations and uses. In earlier papers I reported eighty-five cases of inguinal hernia in which radical operations were performed, gave an analysis of the cases, stated the methods employed and the results obtained. Reviewing the various methods, the question arises: Which is the best to adopt? We can only arrive at the best conclusions on this matter by reviewing these several methods, keeping in mind that the point to determine the choice is, which method restores

the structures most durably to their normal positions, physiological relations and uses.

I shall review the following methods:—Bassini's, Halsted's, Koeher's Macewen's, and the operation I have described and used successfully a number of times.

Bassini's and Halsted's methods are so nearly identical that they may be taken together. Both these operators displace the cord from its normal position, and form new rings and canal. Bassini transplants the cord to the upper angle of the dilated internal ring, near the anterior superior spine, the cord finding its way down beneath the aponeurosis of the external oblique, between the two layers of buried sutures. Halsted displaces the cord two centimetres nearer the anterior superior spine, between the edges of freshly cut muscles, the cord finding its way down beneath the skin between the layer of buried and the skin sutures. Halsted also excises in the canal what he designates as superfluous veins of the cord.

In both of these operations, the cord, on account of being displaced, is shortened and on the stretch; from its pathological relations it is subject to pressure, muscular contraction, and adhesion from the internal to the external ring. Thus the functions of the vessels, nerves, and cord proper may be interfered with by pressure on abnormal position of, or adhesion to, surrounding structures; and following these operations there may be swelling, tenderness, or inflammation, etc, of the cord, and swelling, tenderness, inflammation, sloughing, hypertrophy, or atrophy, etc., of the testicle. Thickening and swelling of the co d I have frequently seen follow Bassini's operation. The cord is put on such a stretch that it is subject to the continuous traction of the bladder, on the one hand, and the testicle on the other. There is no doubt with this traction, aided by gravitation, that eventually the cord will find its way back to its normal position, next to the pubic bone. Disturbances of the bladder, scrotum, and their contents, frequently follow these operations. No immediate, and very little remote, benefit is derived by excision of veins of the cord in the inguinal canal, as it does not materially reduce its bulk at the internal ring where the breach first occurs. The higher the cord and internal ring are displaced the nearer they are to parietal peritoneum, intestine, omentum, etc., and thus by contiguity relapse of the protrusion is favored.

The neck of the sac should not be twisted or ligated. The ligature is liable to slip off, and in tying the knots, a piece of intestine or omentum may be included, giving rise to obstruction, adhesion, etc.; it also leaves a pouch in the peritoneum and causes puckering of the serosa, which favors the formation of adhesions between the parietal and visceral layers.

A single layer of buried sutures, or two layers of such sutures with the cord interposed, is very objectionable. The edges of the different layers, not being brought accurately together, overlap, become irregularly matted and adherent to one another, and thus the union that results is weak and evanescent. Halsted has a greater number of relapses than Bassini. This is easily explained, as he transplants the cord higher; and while the latter uses two layers of buried sutures, the former uses one only. The deeper layer forms a wall, while the other layer is an additional barrier.

The following cases confirm the above statement:—

Halsted reports in the *John Hopkins' Reports*, May 15th, 1895, Atrophy of the testicle in three of his cases following his operation. I have notes of a case operated upon by Halsted's method. The patient, a male nurse, was admitted to the N. Y. Post-Graduate Hospital with a mild urethritis and painful testicle, while I was house-surgeon. Examination showed a marked recurrence of the hernia, and, on the same side, the cord thickened and tender, and the testicle enlarged and inflamed. The cord and testicle of the other side were normal, and did not subsequently become involved. Under treatment the urethritis got well, and the pain and tenderness in the testicle subsided. When he was discharged from the hospital, there was marked thickening of the cord and enlargement of the testicle.

W. B. Coley, in the *Am. Journal of the Medical Sciences*, May, 1895, reports a case of orchitis which terminated in suppuration and required incision, following a Bassini operation. Prof. W. B. De Garmo, in a clinical lecture at the N. Y. Post-Graduate School and Hospital (reported in the *N. Y. Post-Graduate Journal*, Sept., 1896), showed six patients operated on by Bassini's method, and, in giving their histories, etc., stated, that in the 1st case shown, "there were no adhesions in the sac; 48 hours after the operation the patient was passing but little urine, the bladder was much disturbed, a trochar was introduced, and with difficulty 36 oz. of urine were drawn off. Later, Dr. E. Fuller opened the bladder through the perineum, and introduced a tube which was kept in 10 days.

In the 2nd, "A double inguinal hernia, the patient had a marked œdema of the scrotum on the right side. I have shown the case to you because it is not fair to show all cases that are good, and not bad."

In the 3rd, "After the operation there was an enormous œdema of the scrotum and penis. There is still some enlargement of the testicle, and he will have to wear a suspensory on account of it."

In the 6th, "The testicle was at the external ring; the cord was made shorter by the Bassini operation, and the testicle sloughed off, and another operation had to be done for its removal."

G. M. Brewer, in the *Am. Med.-Surg. Bulletin*, Feb., 1896, "On a report of the condition of the parts found upon autopsy, six weeks after a Bassini's operation," stated that "A certain amount of induration was felt for some time over the course of the spermatic cord, extending to the testicle. This, however, was not specially tender to the touch. The portion of the peritoneum lining, the inguinal region, showed a slight puckering near the internal abdominal ring. The skin and subcutaneous tissue were found moderately adherent to the aponeurosis of the external oblique: the vas deferens, spermatic artery, and a number of veins, were traced upward, through the artificially-made internal ring, and downward into the scrotum, becoming more united and, apparently, bound together as they approached the testicle."

This is not an extended report from all the literature of the day, and I have not written any operators for reports of cases. I do not think it necessary, as the cases I have cited are sufficient in themselves to show that these methods, like that of McBurney, are illogical and unscientific, and should also be abandoned. The principles are false in theory, and

the number of relapses and deplorable symptoms which follow prove them to be no longer justifiable in practice. When relapse does occur, the complications are so severe that no truss can be worn with any degree of comfort.

A possibly cured hernia, a displaced, thickened, painful and adherent spermatic cord, and a hypertrophied or atrophied testicle are a most lamentable combination.

The methods of Koeher and Macewen are sometimes used, but both are open to so many objections that they are not used frequently at the present time. These operations are incomplete, as the canal, internal ring, and other deep structures are not exposed. Koeher himself states that his method can only be used when the sac is not too large or its walls too thick. The aponeurosis and the other structures are bruised during the manipulations of the sac. A great amount of damage is done working through the small slit in the aponeurosis of the external oblique. The sac should not be twisted, tied off, and anchored superficially to the external oblique, or at any other place, nor should it be infolded and anchored as a plug in the canal and internal ring. I have already stated the objections to tying off the sac. Twisting the sac has the same objections, and, in addition, as Koeher himself states, is liable to cause sloughing. Anchoring the sac fixes its neck, forms a cone in the peritoneum, into which bowel, omentum, etc., slip, and the cone, by the constant pressure of a protrusion from behind and within, is converted into a wedge, which by opening the rings and canal will be followed by a relapse of the protrusion. The infolding of the sac into a pad or truss which is placed in the canal and internal ring favors relapse; pathological material, which nature has thrown off, is returned to the abdomen. A pad or truss making pressure over the internal ring from the outside is very seldom curative, and is bad enough; but a pad or truss in the canal and internal ring is worse, as it serves to keep the internal ring and canal open, and, being acted upon by the pressure of the diaphragm transmitted through the intra-abdominal contents, serves to further reopen the canal and rings.

In fact, neither of these operations fulfils any of the indications for a radical cure; the suturing of the rings and canal is incomplete, and none of the structures are restored to their normal positions, relations and uses.

In the operation I have described and used successfully a number of times, the incision is made from the external ring to one-half an inch above the internal ring parallel with and about half an inch above Poupart's ligament. It divides the skin, subcutaneous tissues and the external oblique aponeurosis; the cut edges of the latter are lifted and freed from the structures beneath till the outer border of the rectus and the shelving edge of Poupart's ligament are clearly seen. The sac is isolated, and cleared of its contents, removing all altered omentum; next, the sac and the peritoneum continuous with it are removed as high as possible, and the cut edges of serosa closed with continuous suture (supra correction of the peritoneum at the internal ring). The rings and canal are cleared of all masses of fat, glands and adhesions, and all such masses which bulge into the internal ring from the subserous tissue are also re-

moved. Any markedly varicose veins of the cord are excised high up within the internal ring. The internal ring—an opening in the transversalis fascia—is sutured from above downward, leaving only sufficient room close to the pubic bone for the cord. Reinforce the internal ring, and close the canal by suturing the internal oblique and the transversalis and their conjoined tendon to the shelving edge of Poupart's ligament, leaving only room enough next to the pubic bone for the cord. The cut edges of aponeurosis are sutured. The skin closed without drainage.

STITCHES.—For uniting the different layers continuous stitches may be used. In my last five cases I have used with advantage a continuous stitch described by C. Ford. I used the first half of this stitch only for closing the peritoneum, the internal ring, the cut aponeurosis and the skin; but for reinforcing the internal ring and closing the canal I used it complete. In an earlier paper on the operative treatment of femoral hernia I described this stitch.

SUTURES.—Chromicized tendon is the most suitable material for a buried suture, as it is non-irritating, and not absorbed for two or three months.

DRESSINGS AND AFTER TREATMENT.—Bichloride of mercury gauze held firmly in place by long adhesive strips, then a layer of cotton and firm spica bandages.

Dress the wound on the seventh day, or earlier if there are indications. In removing strips pull the ends toward the wound, so as not to pull the skin edges asunder; apply gauze, etc., as before. Keep the patient in bed two weeks, or longer if possible. If primary union is not obtained, do not allow the patient out of bed till cicatrization is complete. The firm bandages are removed one month after the operation, when the patient is allowed to go without any pad or truss.

When the adhesions between the sac and cord are firm, open the sac first. This saves time, as the limitations can be more readily defined, and the adhesions more easily and quickly separated.

In removing the peritoneum continuous with the neck of the sac, usually about one and a half inches of the serosa can be readily drawn down and removed.

In removing omentum it is perfectly safe to tie the vessels only. This does away with numerous and mass ligatures, omental stumps, and lumps of fat constricted by ligatures. To insure them from slipping off, use the "fixation" ligature. The vessel to be tied is defined by spreading out the omentum, and a needle carrying the ligature is passed around the artery by piercing the tissues of the omentum surrounding the vessel. The catgut is tied, using a reef knot, and the vessel severed beyond the ligature.

The operation I have described I consider fulfils all the indications and overcomes the objections to the methods hitherto described.

The lifting and freeing of the aponeurosis of the external oblique exposes well the deeper structures, which later on by this free dissection are brought accurately together without tension, to close the gap in the abdominal wall. Supra correction of the peritoneum at the dilated internal ring causes total obliteration of the sac, strengthens the serosa by

converting its outer surface from a convex to a slightly concave surface, carries the former location of the sac high up within the abdomen, away from the internal ring and the spermatic cord, and leaves a smooth surface, which allows of the free movement of the intestines over its surface. It is better to over-correct, as the peritoneum is sure to relapse a little. Very seldom will it be necessary to excise veins of the cord. After the removal of the sac, etc., the veins in a short time resume their normal size. When there is a markedly varicose condition of these veins, their excision when performed high up within the internal ring is followed by good results, as it reduces the size of the cord above the internal ring and canal, on this account the ring and canal can be made a little smaller. The clearing out of the rings and canal, and removal of all masses which bulge into the internal ring from the subserous tissue, remove the material, which by keeping the rings and canal open would favor a return of the protrusion. Placing the spermatic cord at the lower angle of the dilated internal ring, close to the pubic bone, restores it to the normal position, where it is not subject to pressure or in any other manner interfered with. It hugs the pubic bone, whence it passes down to the base of the bladder. It is absolutely unnecessary to form a new internal ring. The suturing of the ring, as I have described, restores it durably to the normal size. The lower the internal ring and the spermatic cord are placed the further they are away from parietal peritoneum, intestine, omentum, etc., and thus not likely to favor a relapse. The closure of the internal ring is the most important step of the operation; most of the success depends upon the accurate suture of this opening in the transversalis fascia, as it is at this ring that the breach first occurs. This layer of sutures forms a firm wall, while the other layers closing the canal and external ring (leaving only sufficient room for the cord close to the pubic bone) reinforce it and form additional barriers against a relapse of the protrusion. Each of the layers is sutured separately, as it is by this means alone that the different layers can be accurately approximated, and thus firm and lasting union results.

CONCLUSIONS.—From a study of the cases I have reported and cited, and comparison of the methods used by various surgeons, I can only draw the following conclusions:—

1. That the operation I have described fulfils all the indications for a radical cure.
2. That it has all the advantages of the other recent methods, but none of their disadvantages.
3. That, as it has many additional advantages, it should be followed by the best results.

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REMOVAL OF BLOOD STAINS.—The best way to remove blood stains, says the *Centralblatt f. Gyn.*, is to soak the towels, etc., in warm water to which a teaspoonful of tartaric acid has been added. No soap is needed.

SURGERY.

IN CHARGE OF

GEO. A. BINGHAM, M.B.,

Associate Prof. Chemical Surgery, Trinity Med. Coll.; Surgeon Out-door Department Toronto General Hospital; Surgeon to the Hospital for Sick Children; Surgeon to St. Michael's Hospital. 68 Isabella Street.

BRAIN SURGERY AND OPERATIONS BASED ON CEREBRAL LOCALIZATION.

BY JOHN W. ROBERTSON, B.A., M.D.,

Professor of Mental and Nervous Diseases, Medical Dept. Univ. of California.

CEREBRAL ABSCESS.—To diagnose an abscess of the brain is always difficult, and the focal symptoms are usually so slight that localization is impossible except when this condition is the result of an aural inflammation.

Yet one of the most common operations is to lay bare the brain and introduce aspirating needles for the purpose of locating the abscess. When the abscess is found and drained, even though death results, we yet feel that it was scientifically accomplished and worthy of report. A few successful cases have been recorded, but in the great majority the fatal termination is only hastened.

FRACTURES OF THE SKULL.—In recent fractures of the skull surgical interference is often desirable. The old fear of converting a simple into a compound fracture has, under aseptic precautions, disappeared. Injury to the tissues and a fracture of the bone already existing, no additional injury can, as a rule, be done by making an exploratory incision. This is especially true of penetrating fractures and those occupying a limited area, but when the injury is great, and especially when there is no reason to believe that there is a counter-fracture, with injury to the brain substance, interference is not advisable. Very often a blow upon the skull, though not sufficient to produce fracture, may rupture a blood-vessel, usually a branch of the middle meningeal, and, if the symptoms be sufficiently marked to render certain the diagnosis, trephining is always- indicated. If the fracture is of ancient date it should not, as a rule, be interfered with. Many insanities and epilepsies are traced to injuries received either in childhood or antedating by a length of time the development of the neurosis. If the symptoms were not so marked at the time of receiving the injury as to call for operative procedure, it is seldom good policy to disturb existing relations.

TUMOURS OF THE BRAIN.—The possibility of localizing brain tumours, and operative measures for their removal, have been more fully discussed

than has any other of the practical questions which have arisen in the discussion of cerebral localization. It is the common ground on which the surgeon and neurologist meet, and it has been made the crucial test of the truth or falseness of the theory. The surgeon demands directions so specific as to accurately place the trephine over the growth,—not accomplishing which, the operation will be a failure, at least from his standpoint. While the text-books assert the possibility of thus accurately defining the brain area, and the few cases where this has been accomplished have been so widely published as to engender faith in its possibility, we who attempt this and, after most careful consideration, either refuse to attempt localization or hedge our opinion with many reservations, know that at best localization is uncertain. Were tumours always encapsulated and situated on the cortex and in the Rolandic region, they would be much more easily localized and removed. But, as a matter of fact, it is difficult either to locate their position or to even name the kind of tumour that we will find.

As tubercles, they may simply irritate; as sarcoma they may attack connective tissue wherever found; or, as glioma, they may involve and become a part of the brain substance itself. Though a brain tumour may be present, it is not necessarily easy of diagnosis, and frequently the post-mortem gives us the first intimation of a condition which had been supposed to depend on a lesion in some other organ.

But granting their easy diagnosis and the fact that they could be unerringly located by the focal symptoms they produce; suppose even that the cathode ray, so long an electrical toy, should accomplish the wonders for the brain that it is said to have done for the bones,—it is still doubtful whether the surgeon would have any right to interfere with these morbid growths. Take tubercles, for instance, which compose a large percentage of the tumours found in the young: What benefit could result in the removal of one or two, when they may be diffused over the whole brain? The same can be said of gumma due to syphilis.

In both conditions the tumours are the result of a systematic disease, and it is the system, not the morbid product, which is to be treated.

Sarcomas and gliomas, by the very nature of their origin and surroundings, cannot be successfully removed.

Encapsulated tumours, situated on the cortex, are but rarely found and still more rarely diagnosed. Dana says that not five per cent. of tumours, are removable; and when it is remembered that these include gumma, tubercles, and sarcoma the practical results are *nil*. Thus it seems that little is to be expected from surgical interference based on any aid that cerebral localization may furnish.

Certainly in not one out of a hundred cases can anything like a scientific opinion be expressed. Speaking broadly, the only benefit which can arise is that oftentimes trephining on any portion of the brain does for a time relieve the pressure symptoms. To cut down on the brain simply because a tumour has been located is only to be recommended when it has for an object the relief of pressure. For this purpose it is not necessary to trephine absolutely over the morbid spot in order to give relief.

CRANIOTOMY.—In the year 1890, LANNELONGUE, a French surgeon, believing that congenital idiocy was due to the early closure of the fontanels, advocated a new operation to overcome this fault of nature. He advised the removal of two strips of bone on either side of the sagittal suture extending from the forehead to the occiput. His theory was that, by giving greater room for brain expansion, mental power would be notably increased. His theory was eagerly accepted, and the usual claims put forward through the medical journals. Many deaths have resulted, and little mental improvement has been noted in those who have survived the operation. As a matter of fact idiocy is not the result of, nor is it usually accompanied by, unduly early closing of the fontanels, the lesion producing this mental condition being so widespread that linear craniotomy could not materially influence this disease.

EPILEPSY.—Surgical claims for the cure of epilepsy are so persistently put forward and stoutly maintained, and appear in such devious and plausible guises, that it would seem that no case has been properly treated unless the eye muscles have been subjected to tenotomy, the turbinated bones of the nose excised, the ovaries removed, or the skull trephined. All kinds of operative procedures have been recommended for its cure. As a matter of fact, any operation that acts on the mind of the patient may for a certain length of time result in benefit. The pathology of the disease is not known, its ætiology is in nearly all cases heredity, and in the great majority no cure is possible. In both epilepsy and insanity the patient's condition is generally accounted for by a fall upon the head or some other trumatic injury to the brain. All heads are full of lumps and depressions, and, when these are subjected to a person of strong imagination, pathological changes are easily diagnosed. If an operation be based on this and the skull be trephined, a temporary benefit may result, whether or not the slightest change is found. But this improvement is only temporary, and the last condition of the patient is worse than the first. That epilepsy may follow a blow and be directly caused by the resulting pathological change is not denied.

When this causative relation can be clearly established, and the injury is recent, trephining is always indicated. But if years have elapsed, and the brain has been accustomed to its new surroundings, the meninges, as well as the brain, will have undergone such pathological change that no operation can benefit. Conservative surgeons no longer claim epilepsy, with general convulsions, as properly within their province. The so-called Jacksonian epilepsy, involving one of the extremities or group of muscles, which is supposed to be produced by a cortical lesion, may be considered from a surgical standpoint; yet we know little more of the pathology of this form than of *grand-mal*. Because the hand, leg, or arm is involved, it by no means proves that there is a tumour in the corresponding area of the cortex.

Beyond all question, we have rushed into the field of brain surgery to a far greater degree than can possibly be justified. Aseptics have rendered us reckless in this as well as in other fields, but the results are far more disastrous. Other organs can be opened, and an exploratory incision will, in time, heal, leaving the parts but little the worse for interference.

But in trephining the brain, permanent injury is often sustained. The surgeon, cutting down on the brain, opens the meninges and creates an artificial apoplexy and a temporary inflammation which may subside, but which always leaves a scar. Occasionally a hernia cerebri develops; but when neither this nor any other appreciable lesion results, yet the brain is so delicate an organ that it is often deleteriously affected. Surgeons tell us that the button of bone can be replaced and reossification established.

This may happen, but as a rule it does not happen, and the brain, in place of its bony covering, has simply a fibrous membrane for its protection. Epilepsy, as well as other disturbances of the nervous system, not infrequently results.

CONCLUSION.—Summarizing the whole subject, it can be positively asserted that, by the very nature of the investigation, cerebral localization can only in exceptional cases be of material assistance to the surgeon: that the trephine may be used to elevate a depressed fracture, check a traumatic hemorrhage, or remove the pressure symptoms of a tumour, and that great care should be exercised lest injury may result, which will counterbalance any hope for success.—*Am. Med.-Surg. Bulletin.*

REPORT OF CASES IN ABDOMINAL AND PELVIC SURGERY

BY A. H. CORDIER, M.D., KANSAS CITY, MO.

GASTRO-JEJUNOSTOMY WITH THE MURPHY BUTTON.—A man, aged sixty-six, some eight years ago had an attack of hepatic colic lasting several hours followed a few days later by a jaundice persisting three or four weeks. He soon regained his former good health, and remained so up to two years ago, when he had another colic attack, not so severe and not followed by jaundice. One year ago he began to have more or less pain in the region of the stomach; or rather, as he termed it, an uneasiness after eating. After two or three months of this uneasiness, he began losing flesh and had occasional vomiting spells. No blood was vomited at any time. At the time I first saw him, March 1, 1895, he had not been able to digest or retain much solid food for several months, and was greatly emaciated from his former weight, two hundred and forty pounds. He now weighs only one hundred and thirty pounds. His appetite was fairly good, and liquid nourishment was taken with relish and fairly assimilated. Solid food caused pain and nausea until relieved by vomiting. On examining him, I found that he was greatly emaciated, had a "swarthy" look, not exactly that of a malignant cachexia. Pulse and temperature were normal. Examination of the abdomen revealed a greatly dilated stomach, and its peristaltic action could be plainly seen through the parieties. It was painful on pressure only in the region of the pylorus; here an unnatural sense of resistance could be distinctly made out, covering an area about as large as the palm of the hand or smaller.

A test meal examined revealed an absence of hydrochloric acid. A diag-

nosis of a malignant stenosis of the pylorus was the most acceptable theory to me, yet a non-malignant stricture had been made out by a good diagnostician before I saw the case.

A tonic of strychnine and iron was given, and nutrient enemas were ordered four times in twenty-four hours. Under this regimen he gained eight pounds in a month.

A median incision four inches long was made, extending downward from one inch below the the xyphoid cartilage. A loop of jejunum was pulled into the incision. After pushing the omentum to the left, a "puckering-string" stitch was put in the convex surface, the gut was incised, and one-half of the Murphy button—the larger piece (one inch in diameter)—inserted. The stomach was pulled into the incision and a similar opening was made in its anterior wall about four inches from the pylorus, and the other half of the button placed in position and securely fastened by pushing the two halves together. The approximation was perfect. A running Lembert stitch was put in on one side to give additional security against any accident that might occur from vomiting; besides, the walls of the stomach were thickened from long and constant peristalsis. The patient left the table with a pulse of 90. He vomited for the first time, ten hours after the operation, a large quantity of bile being thrown up. Two days later he had a similar attack of vomiting. The bowels moved on the second day. There was no distension at any time.

On the twelfth day I could feel the button distinctly, near the tenth rib. It was freely movable and had evidently completed its work and left its moorings at that time. Eggs, milk, ice cream, soft toast, rare beef-steak (chewed and the juice swallowed) formed his dietary at the end of two weeks.

On March 1, 1896, the man had not found the button, but wrote me that he thought it had passed some time during his three weeks' stay at the hospital. He has continued to gain in weight and strength, is free from pain, vomiting, or other symptoms pointing to malignancy, and I trust that my probable diagnosis of malignancy may prove to be wrong. —*Med. Record.*

THE TREATMENT OF CARBUNCLES.

BY THOMAS PAGE GRANT, M.D., LOUISVILLE, KY.

On Thursday afternoon, Mr. L—— came to my place suffering with a carbuncle on his neck, which he said had been coming on for three days, and that he "waited for it to get ripe" before consulting me. Having suffered from this worst of all furunculous tumors, he was not a little anxious and somewhat depressed, as he had an important business trip arranged for the next week, and he was especially anxious for a speedy recovery. On removing the dressings from his neck I found an induration about two inches in diameter covered with pus; on cleaning it off there were brought to view six postules in a space about three-quarters of an inch in diameter; these postules were oozing a thick pus, and I was satisfied that my patient was in for a siege with one or more carbuncles,

as there was a number of other postules on his neck which looked bad, to say the least.

Taking a knife I made a free incision across the top of the carbuncle; after evacuating as well as I could I washed it out with a solution of carbolic acid, about three to five per cent After this, with a pair of dressing forceps I removed all the broken-down tissue I could, a plan which I have found to be of great service in many cases of carbuncles, as thereby whole colonies of micro-organisms are taken out that otherwise would increase and multiply until thrown off by suppuration. Having cleansed the wound thoroughly, I packed it with dry protonuclein special; after which I applied a poultice of flaxseed meal, on which was a teaspoonful of fluid extract of eucalyptus globulous.

As a tonic I ordered:

℞ Elix. Ferri, Quiniæ, et Strych. Phosphat., ℥ jv.
Sig. A teaspoonful three times a day.

The local treatment was repeated for two days when the poultice was left off and instead this ointment was used.

℞ Sebi ovis } aa ..... ℥ ij
Ol. oliv. }
Ceræ flava ..... ℥ ss
Zinc. oxid ..... ℥ iij
Ext. eucalypt. glob ..... ℥ j
Acid carbolic ..... grs. c
M. Fiat. unguent. Sig. Grant's Comp. Zinc Ointment.

I continued to wash the wound with the dilute carbolic acid and pack it with the protonuclein; this dressing was renewed twice daily. So rapid was the recovery that on the following Monday evening the wound was healed and the induration was almost entirely gone, and I dismissed the case with directions that he keep a dressing of the ointment on the seat of the carbuncle for several drys to protect the tender skin.

In an extensive and moderately successful experience—both personal and professional—with carbuncles, I have never seen a more threatening outlook for a serious carbuncle, nor one so quickly and satisfactorily cut short as in this case; and I am of the opinion that the results in this case are far ahead of the old-fashion treatment of poultices alone, or the more modern injection of methyl violet, or the treatment much extolled of late, of total extirpation and curetting, which leaves a great gaping wound to be filled up by granulations and skin grafts, or to become an open ulcer followed by ugly scars. I am free to say that I am convinced that the success in this case is largely due the use of protonuclein, as with the same general line of treatment, which has been the very best I could find, I was never able to cure a carbuncle under two weeks, whereas in this case it was cured as quickly as a simple wound would have been.—*The Int. Jour. of Sur.*

SURGICAL HINTS.

An exploratory operation is often of value, but it is very seldom that an operation of any kind is not more or less of the "exploratory" variety.

The cleverest diagnostician may err as to important particulars. It is our duty to make every effort to know the disease we are fighting; to discover the enemy's position and estimate his strength before advancing to the attack.

Iodoform is a very useful drug which nothing has been able to replace, but it must not be forgotten that it may be a local irritant and a systemic poison. Acute constitutional iodoform poisoning occurs much more easily by absorption from fresh wounds than by absorption from granulating surfaces. A quick small pulse, with dilated pupils and slight elevation of temperature, is a combination of symptoms which, occurring within thirty-six hours of an operation where iodoform has been used, should lead us to suspect the drug intoxication. Delirium, icterus, and a roseolar general eruption make the diagnosis almost certain. At the first symptoms all iodoform should be removed from the wound and the elimination of the poison by diuresis should be encouraged, at the same time nourishing and stimulating the patient. Fortunately this condition is rare, but when once seen can never be forgotten.

In cases of fracture at or near the elbow avail yourself of the X-ray, even when you believe your previous diagnosis absolutely correct. You will often see something which will disagreeably surprise you, and if the examination has not been put off till too late, you may correct a faulty position of bone fragments which has been concealed by the swelling of the soft parts.

The old-fashioned block tin catheter is too valuable an instrument to go into disuse. It may be bent to any desired curve, and will often pass a prostatic obstruction which disputes the right of way with all the soft instruments at our disposal. This catheter is far safer than the woven instrument with stylet, because it can be sterilized by boiling and its curve can be more accurately set.

Uncontrollable vomiting after an intra-abdominal surgical operation is usually a sign of interference in the circulation of a vital organ. Its presence is far more ominous than an abnormal pulse, respiration or temperature, and when it has persisted for more than twenty-four hours without any abatement, the idea of reopening the abdomen should be entertained with the hope of relieving some internal strangulation or tension.

Most cases of acute cystitis set up by the decomposition of residual urine—a very frequent cause of this complaint—may be cured in a surprisingly short time without washing the bladder and without internal medication, simply by drawing every drop of urine by catheter once every three hours. The catheterization must be done punctually day and night whether the patient urinates or not. Five minims of oil of wintergreen twice daily, and the ingestion of a gallon of water every twenty-four hours, will contribute to the cure and will greatly hasten it.

Acute general sepsis in a robust young person may be favorably influenced by venesection, withdrawing about fifteen ounces of blood, and by following this with the infusion of about a quart and a pint of normal saline solution either into the vein or by high enema. This not only

withdraws a certain amount of poison from the system, but the infusion often causes the clogged kidneys to act and go on with their work of elimination. In feeble individuals the intravenous saline infusion without previous blood-letting is of value. Here we get the diuretic action of the fluid, and at the same time we dilute the whole bulk of the patient's poisoned blood, probably reducing its toxic effect upon the vital nerve centres.—*Int. Jour. of Surgery.*

FLOATING KIDNEY.—Dr. E. Walker (*Cinc. Lancet-Clin.*) reports a case of floating kidney containing three dermoid cysts and several agglutinated cysts, treated by laparotomy, with recovery. His conclusions are as follows:

1. A distinction ought to be made between the terms displaced, movable and floating kidney.
2. Floating kidney, although rare, does exist.
3. Floating kidney proper cannot be reached without opening the peritoneum. Movable kidney can generally be reached by an incision in the loin without opening the peritoneum.
4. As floating kidney is always congenital, if its secreting function is interfered with by any change in the kidney substance, the remaining kidney enlarging readily secretes the normal quantity of urine.
5. In floating kidney with a long meso-nephron, if nephrectomy is decided upon, the incision in the median line will be probably the easiest and safest operation.

CAPILLARY ABDOMINAL DRAINAGE.—According to Dr. Van Hook (*Am. Gynec. Jour.*) the following propositions are warranted:

1. Since the quantity of fluid to be removed per hour can not be more than approximately estimated, the amount of drainage material employed must be well equal to maximum requirements.
2. Capillary (gauze) drainage has the advantage over tubular drainage that a minimum amount of damage is inflicted upon the peritoneum.
3. Capillary drainage acts independently of gravity and suction apparatus, and delivers a constant current of fluid.
4. By its appropriate disposition among the peritoneum-clad viscera it not only aids coagulation in ruptured capillaries, but carries away fluids secreted at some distance (ten centimetres) from the limits of the gauze, since capillary action takes place between the closely approximated peritoneal surfaces.
5. The amount of plastic reaction depends more upon the infection present than upon the action of the gauze.
6. The utmost attention should be paid in septic cases to the accurate application of gauze over the uninfected surfaces of the peritoneum near the focus of infection, and this gauze should not be disturbed or replaced during or at the end of the operation.
7. The strips of drainage gauze should be left long, in order that, hanging over the side of the abdomen, the fluid from the peritoneum may be delivered with great freedom and rapidity into the dressings.

MEDICINE.

IN CHARGE OF

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THE BRONCHITIS-TENT, THE HOT PACK, AND THE HOT FOOT-BATH.*

BY H. A. HARE, M.D.,

Professor of Therapeutics in the Jefferson Medical College of Philadelphia.

GENTLEMEN,—I propose to devote the hour to-day to the consideration and demonstration of the employment of several remedial measures other than medicines; and I would ask your careful attention, because one of the most important things which you can learn as medical students is the necessity of giving as little medicine as possible for the production of the cure you are seeking to bring about. I have often told you that medicine should be used by physicians as ammunition is used by soldiers, namely, only when necessity requires, and then with a very definite idea of exactly what is to be accomplished.

The first remedial agent to which I wish to call your attention is the so-called bronchitis-tent, an apparatus which can be readily improvised in any household, and which will give your patient great comfort in many conditions in which the respiratory passages are dry or in an irritated condition. It will prove useful in the treatment of ordinary spasmodic croup dependent upon a catarrhal condition of the child's larynx, which may be exacerbated by the fact that the child sleeps in a room heated by means of a furnace, the hot air of which is not only abnormally dry, but often laden with dust. It will prove of value in the treatment of persons who have been exposed to irritating fumes or gases, and who, as the result, are suffering from inflammation of the respiratory passages. In the early stages of bronchitis in children and adults it will do much towards modifying the severity of the cough and the inflammation in the bronchial tubes, and in catarrhal and croupous pneumonia and whooping-cough it will in many instances prove an invaluable aid to the other measures which you will naturally institute.

The bronchitis-tent can be hurriedly improvised by tying to each corner of the child's cot an ordinary broomstick, the broom end resting upon the floor, and drawing over this frame one large sheet, or two small ones basted together, in such a way that the canopy falls over the broomsticks and down at the sides of the bed almost to the floor. In this way the

* Clinical lecture delivered at the Hospital of the Jefferson Medical College.

child lies in a little tent, the top of which is elevated two or three feet above its head, thereby giving it plenty of air-space. At the foot of the bed you now place an ordinary Arnold steam sterilizer, an apparatus with which many of you are familiar, and which I now show you. This can be used, as you well know, not only for the sterilization of milk for infant-feeding, but also for the sterilization of your instruments; and by having a small hole made in the lid to which is soldered a pipe running off at an angle of 45 degrees, you are provided with an apparatus by which you can also develop and distribute steam in any place and in any direction you desire. A very small alcohol-lamp serves to disengage a large amount of steam from this apparatus, because only a small amount of water has to be heated at a time, the large pan which is superimposed upon the copper bottom containing the boiling water acting as a reservoir which continually provides a fresh supply of water, so fresh water need only be poured into the apparatus at intervals of several hours. The end of the pipe attached to this sterilizer is now made to project under the sheet forming the tent, and in a very short time the child is surrounded by an atmosphere which, on the one hand, is not so heavily laden with steam as to alarm it, and yet, on the other hand, is so warm and moist and balmy as to very quickly soothe its irritated mucous membranes. The child can sometimes be kept in this tent for a number of days with great advantage, and if well enough can be allowed to have its toys, and even its little friends may visit it. By the use of a little ingenuity in the way of substituting flags for sheets, you can very frequently not only succeed in making your patient happy in his confinement in the tent, but the envy of all the other children in the family.

This same steam-producing apparatus can be employed for the breaking up of forming diseases, particularly those due to cold, as it practically provides a home-made Russian bath. The patient, sitting upon an ordinary wooden chair, is stripped, and then covered with a heavy blanket, which is tightly pinned about his throat. The sterilizer and alcohol-lamp are then placed at a little distance to one side, and the tip of the tube from the sterilizer is so arranged that it discharges its steam underneath the blanket surrounding the patient. In a very short time the patient will break out into a profuse perspiration, which will often be sufficient to relieve him of his forming cold by overcoming internal congestion. This relief may be emphasized if at the time the séance is begun a little sweet spirit of nitre be given in a hot lemonade.

This method is also useful for the purpose of stimulating the glands of the skin by relieving the kidneys in cases of chronic renal diseases in which it is feared that uremic symptoms may develop, or in which mild uremic symptoms have already commenced. Care should be taken in all cases, however, that the patient breaks out into a sweat, for if he does not do so he will be very apt to suffer from heat-stroke or be much oppressed by the heat. If the heart has undergone marked degenerative changes as the result of the renal disease, increased caution should be exercised, lest the exposure to the hot bath produce cardiac failure. If for any reason the patient is unable to sit upon a chair, he may lie in bed, and by means of a few barrel-hoops cut in two the covers may be

slightly elevated above his bed, sufficiently to permit the entrance of the steam, but not high enough to cause him to become chilled by the entrance of the air of the room. In this way the patient gets almost as satisfactory a sweat as in a chair. Similar measures may also be resorted to for overcoming the fall of bodily temperature which is associated with the collapse occurring at the crisis of acute infectious diseases or following surgical operations or injuries.

You see, therefore, that by means of comparatively simple measures and one single piece of apparatus which can be used for other useful purposes, you have provided for your patients a number of efficient therapeutic measures.

The hot pack is used for practically the same purposes as is the hot steam bath that I have just named, namely, for increasing the action of the skin and producing a sweat. But it is also of value in another condition, in which the results of its use are often extraordinary. I refer to the control, and even the cure, of chorea minor. As you are well aware, we commonly rely upon arsenic as a remedy above all others in this condition, but in those cases of severe chorea which persist during the night as well as the day the child is rapidly exhausted, not only by the movements but by the loss of sleep, and under these circumstances a fatal result is not rare. It is in these cases that the hot pack affords us the best results,for even while the child is still in the pack it will frequently fall into a restful and refreshing sleep which marks the turning-point in its disease. Perhaps the hot pack not only does good by quieting reflex irritation, but also by aiding in elimination of poisonous materials from the body, if, as is thought by some clinicians, chorea is dependent upon an infection. The method of using it is as follows: First, a moderately heavy blanket is dropped into a tub of very hot water. While it is becoming thoroughly soaked, a rubber sheet is placed upon the bed and covered by a dry blanket. The child is now stripped and laid upon this blanket, and the blanket which has been soaking in the tub is then wrung out as dry as possible and wrapped around the child up to its neck, its arms being folded across its chest. This must be done with caution, for two reasons: on the one hand, the application of too hot a blanket will scald the child, while on the other hand if the water has not been hot enough or the blanket is much exposed to the air while being wrung out, it will become cooled to such an extent as to lose all its efficiency. Care should be taken that the child's temperature does not rise above 100° while in this hot pack, and such a rise may be prevented in part by allowing it to sip a little cold water from time to time, an act which will also reflexly increase the excretion from the skin by the presence of cold in the stomach. After the pack has been used from twenty minutes to an hour, or as long as the blanket remains hot, the child is quickly taken out of it, rubbed dry, laid in dry blankets, and allowed to go to sleep.

The hot foot-bath is familiar to you all, particularly when to the water has been added some mustard to increase its counter-irritant effect. You

have probably seen it employed very many times for the purpose of breaking up severe colds, the foot-bath being given the last thing before the patient actually gets into bed for the night, and in association with hot and stimulating drinks. I want to call your attention to one other use of this hot-bath, namely, its employment by nervous and overworked persons, who on going to bed suffer from insomnia and cold feet, the insomnia being due to the cerebral hyperemia following excessive use of the brain. In these cases it is far better to allow of sleep by the use of the hot foot-bath and mental rest than it is to run the danger of producing the morphine or chloral habit in your patient by prescribing either one of these drugs as a hypnotic.—*Therapeutic Gazette.*

FATAL SEPTICÆMIA DUE TO THE MICROCOCCUS TETRAGENUS.—Chauffard and Ramond (*Arch. de Méd. Ex.*, p. 309, 1896) point out that the virulence of this micrococcus, which has been found in the mouth of healthy persons, and was detected by Koch in tuberculous cavities, is proved by numerous recorded cases, in which it has caused suppurations, generally in the cervico-facial or cephalic regions. In the two following cases its effects were fatal: A girl of 15 died with typhoid symptoms about eight weeks after the commencement of a severe influenza; the necropsy showed multiple suppuration of the joints, acute purulent pericarditis, abscess of the myocardium, pulmonary infarcts, and abscesses of the liver and kidneys. All the abscesses had a typical appearance of fatty caseation, and the brown effusions in the pleura and pericardium had numerous oily drops on their surface. The tetragenus was present in all the lesions. A young man of 18 also died with symptoms of secondary infection, secondary to suppurative arthritis of the right knee, which, when aspirated, gave a pure culture of the M. tetragenus. The microbe was also found (with others) in the scrapings of an ulcer on the patient's tongue opposite a carious tooth. In both cases the cultivations of the micrococcus proved virulent to animals, and the pus in the consequent abscesses had the same characteristic appearance.

THE NEW NURSE.

Under the above caption, a recent editorial in the *Practitioner* contains the following well-timed criticism: "The first volume of Professor Clifford Albutt's monumental 'System of Medicine,' which has recently appeared, contains an article written by a nurse. This is a somewhat startling sign of the times. Doctors were formerly supposed to teach nurses; now, apparently, the nurses are to teach the doctors. The next thing will probably be courses of instruction in nursing for medical men, who must at least be taught their place in relation to the New Nurse. This knowledge is becoming more and more necessary to the practitioner, and the want of it is likely to get him into trouble. The New Nurse waxes every day fatter, figuratively speaking, and 'kicks' more vigorously. She is no longer, it would seem, contented with a certificate; she must have a degree. At least 'post-graduate' lectures are given by learned ladies, and reported in the *Nursing Record* for her edification. 'Exhibitions' are arranged where medical and surgical appliances of all

kinds are displayed, to the admiration of the public and the greater glory of the New Nurse. Her tastes are strongly surgical, and she has a scarcely concealed contempt for the general practitioner. Even the hospital physician is made to feel that his attempts to hide his ignorance do not impose on her. If his cases recover, the credit is hers; if they do not, the fault is his She is more tolerant of the student, for—to say nothing of his possibilities from a matrimonial point of view—he is more keenly conscious of his inferiority and more grateful for her patronage."—*Pacific Medical Journal.*

MEDICAL NOTES.

Asafetida is useful in uterine irritability, and is of an especial value in threatened abortion.

A hot-water bag over the cardiac region is an effective stimulant measure in threatened heart failure.

One of the best and most powerful intestinal antiseptics in the materia medica is sulpho-carbolate of zinc.

Guaiacol biniodide is a reddish brown powder and is recommended as an anti-tubercular remedy of great value.

To abort bed-sores, paint the skin as soon as it reddens with a solution of nitrate of silver, 20 grains to the ounce.

Antipyrine, either alone or in combination with the bromides, will often be found to yield good results in cases of epilepsy.

Ichthyol has been found to have a remarkably efficacious action upon recent burns, relieving the pain at once and facilitating healing.

For gonorrheal rheumatism give the fluid extract of jaborandi in one-half teaspoonful doses every half-hour until four doses are taken.

Thyroid extract has been used successfully in a number of cases of fibroids of the uterus. This treatment is said to diminish the menorrhagia.

Strychnine sulphate, one-sixtieth of a grain, thrice daily for six or eight weeks before parturition, is a serviceable prophylactic against uterine inertia during labor.

One per cent. of common baking soda put into the water in which instruments are boiled, in order to sterilize them, will, to a great extent, if not totally, prevent rusting.

Dr. Cantrell believes that, as a pus destroyer, no drug will take the place of ichthyol, therefore it is indicated in pustular acne as well as furuncles and carbuncles if seen early.

In the pain of urination caused by an excess of uric acid give five grains each of benzoic acid and borate of soda in an ounce of water every two hours. The third dose will give relief.—*Med. Sum.—The Medical Council.*

ICHTHYOL IN AFFECTIONS OF THE EYES.—Germani (*Gazzetta degli ospedali*) finds that lanolin mixed with from 10 to 15 per cent. of its weight of ichthyol is very efficacious in ciliary blepharitis, curing it

when the ordinary yellow ointment has failed. Collyria containing from 1 to 3 per cent of ichthyol are very useful in phlyctenular conjunctivitis and in simple catarrhal ophthalmia. Ichthyol is well borne,, soon eases the pain, and hastens the cure.—*British Med. Journal.*

THE ACTION OF HOT-AIR BATHS IN ALBUMINURIA.—The *Gazette hebdomadaire de medicine et de chirurgie* for August 27 publishes a report of a recent meeting of the Congrès Francaise de médicine, at which M. Carrieu presented a paper on this subject. The author stated that he preferred this treatment to the use of vapor baths and to that of hot baths, which did not produce sweating. The hot-air baths, he said, produced a sweating which relieved the kidneys by directing towards another tract a part of the substances which obstructed the kidneys and should be eliminated. Furthermore, the application of heat to the skin regulated the interchanges as all other excitants did, and patients with albuminuria were often subjects in whom combustion was deficient, or deviated from tbe normal type. The hot-air bath filled two principal indications: It relieved the kidney by the abundant sweating which it produced, and regulated the organic interchanges.

The immediate physiological effects of this treatment, said M. Carrieu, showed themselves by a sensation of heat, which was not at all disagreeable, and an abundant sweating, which was accompanied by an acceleration of the pulse and an elevation of temperature. Respiration was not at all affected. No symptom was produced, except some palpitation and headache during the first baths, which lasted about an hour; sweating was the only symptom that persisted for a greater length of time.

The therapeutic effects were manifested by the changes in the urine, the quantity of which diminished on the day after the bath, and a rather intense polyuria which supervened on the following day. The density of the urine was in inverse proportion to its quantity. The urea scarcely underwent any modification. The rate of albumin greatly diminished on the day after the bath, but it increased on the following days, although it did not return to the former quantity. Gradually, however, this diminution became persistent, and finally there was complete disappearance of the albuminuria.

Hot-air baths, said the author, were indicated in cases of subacute and chronic nephritis in epithelial forms; they were, however, contra indicated in the vasculo-connective forms, and when arteriosclerosis, a skin disease, or a nervous condition existed.—*New York Medical Journal.*

A NEW METHOD OF OPERATING FOR HYDROCELE.—The operation for the radical cure of hydrocele should be performed in the following manner: The sac is punctured in the usual way, and when about a third or one-half of the fluid has been withdrawn, two drams of a saturated solution of bichloride of mercury in glycerin are injected and mixed with that which remains, and allowed to rest in the sac for from a half-minute to a minute. The whole of the fluid is then drawn off to the last drop. Very little pain is experienced, and unless the patient is nervous and takes an anesthetic, he is able to move about immediately after the

operation. For the next few days he must, as a rule, lie about, but need not in any case be confined to bed, and in a week or less he is quite well. Provided the surgeon is careful that his hands and instruments are clean and free from micrococci when the puncture and injections are made, they produce a uniform result, i. e., sufficient aseptic inflammation to obliterate the sac and nothing more.—*International Medical Magazine.*

URETHRITIS.—Dr. Chetwood (*N. Y. Polyclinic*) employs the following internal medication in connection with the local treatment of urethritis in its various forms:

℞ Liq. potassæ ..... ℥ii
Tr. hyoscyami ..... ℥iv
Ol. santali or Ol. gaultheria ..... ℥s
Muc. acaciæ, q. s. ad ..... ℥iij
M. Sig.: A teaspoonful three times daily after meals.

DRY PHARYNGITIS.—Danet (*Progres' Medical*) recommends the following spray in dry pharyngitis:

℞ Ac. carbolici ..... gr. iv
Tr. iodi ..... m. v
Tr. aloes ..... m. viii
Tr. Opii ..... gtt. x
Glycerini ..... ℥j
M. Sig.: Use as a spray four or five times daily.

CYCLING.—As preventive measures against the dangers of this fascinating sport may be mentioned: First, the use of a low gear; second, the upright position in riding; third, adequate food when riding and the avoidance of muscle poisons, such as beef tea; fourth, the avoidance of preparations of kola and coca, which numb the sense of weariness; and, fifth, on no account should the cyclist continue riding after he has commenced to feel short of breath, or when there is the slightest sense of weariness in the chest.—Dr. Herschell, in *Lancet.*

MEDICINAL TREATMENT OF IRRITABLE TEMPER.—In the September number of the *Glasgow Medical Journal* there is an abstract of an article from the July number of the *Practitioner* in which the writer says that Dr. Lauder Brunton has paid some attention to the subject of bad temper as an indication of diseased conditions, and to the method by which relief of a symptom so personally and socially distressing can be obtained. Some time ago he noted that unwonted irritability of temper was often the precursor of a headache, and described the beneficial action of bromide of potassium and salicylate of sodium in relieving the headache. He now recommends the same combination for irritability of temper occurring in connection with various diseases, and more especially in gout and heart disease. The beneficial effect of the bromide upon the irritable nerve centres is, of course, universally recognized, and Dr. Brunton considers that the researches of Dr. Alexander Haig justify the conclusion that the salicylate of sodium is of value by promoting the elimination of

uric acid. Referring to irritability of temper as a symptom of cardiac disease, Dr. Brunton remarks upon its frequency, and quotes the case of a child in whom it was the only symptom of mitral regurgitation, the physical evidence of the disease being observed almost by accident. He finds the above-mentioned remedies to be valuable adjuncts to the use of digitalis and other cardiac tonics. They improve the subjective condition of the patient, and thus facilitate his recognition of improvement.—*N.Y. Med. Journal.*

ABSOLUTE ALCOHOL AS A DISINFECTANT FOR INSTRUMENTS.—Dr. Robert L. Randolph has found that for the disinfection of delicate eye instruments nothing is better than absolute alcohol. The results of his experiments, as recorded in the *Johns Hopkins Medical Bulletin*, convince him—

1. That in a given number of eye instruments, by far the majority are infected by exposure to the air.

2. That absolute alcohol would seem a valuable disinfectant for instruments infected under the conditions which ordinarily surround us in every-day life. This conclusion seems warranted by the results obtained in the first and second series of experiments. Attention may be called to the fact, too, that in the second series the nails were all without a doubt infected, and it might be said that they had been exposed to conditions which, to say the least, were extraordinarily favorable for infection, so that this series is strongly suggestive that alcohol possesses disinfectant properties of no little value.

3. That the septic character of instruments infected with a pure culture of staphylococcus albus is not altered by exposure for twenty minutes to the action of absolute alcohol.—*Maryland Med. Jour.*

URTICARIA.—Dr. Gilchrist reports a case of urticaria pigmentosa, a very rare disease of the skin, in a child of 17 months. From experiments on excised wheals, both spontaneously and artificially produced, the following observations are recorded: (1) The wheals produced artificially in urticaria are certainly inflammatory. (2) Spontaneous wheals in other cases of urticaria have been found to show all the factors constituting inflammation. As to how the inflammation is produced when a finger-nail is drawn over the skin without injuring it, Dr. Welch suggests that there is a toxemic condition of the blood in patients suffering from urticaria, and when the skin is stimulated, some of the toxine is set free into the tissues of the skin, and thus sets up inflammation. (3) Mono-nuclear leucocytes are capable of leaving the blood-vessels quickly and in considerable numbers in certain affections of the skin. This fact is not generally admitted. Dr. Flexner remarks: "Pathologists have come more and more to regard the view that the polymorphonuclear cells alone leave the vessels in inflammation as insufficient; they have, however, regarded them as the earliest to escape in numbers."—*Johns Hopkins Hospital Bulletin.*

OBSTETRICS AND GYNAECOLOGY.

IN CHARGE OF

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CYSTS OF THE TUBES, UTERUS AND ADNEXA.

Josef Fabricus, Vienna (*Arch. f. Gyn.; Am. Med. Surg. Bull.*)—The following are the different kinds of cysts which occur about the female genitalia:

1. In the broad ligament, about the middle of the tube, is usually found a small cyst not larger than a peppercorn, which evidently belongs to the broad ligament, as it is not connected with the tube.

2. The hydatid of Morgagni, a cyst usually about the size of a cherry, which is attached to one of the fimbriæ of the tube. Embryologically this comes from the upper end of Mueller's duct.

3. Cysts in the broad ligament between the tube and Gaertner's canal. These cysts have the same character as those described under paragraph 1. They do not seem to have any connection with the epoöphoron.

4. Cysts from the tubes of the parovarium. These cysts always develop interligamentously, but may reach such a size that they press out the peritoneum, and may finally become pedunculated. They are usually not larger than a bean; they are lined on the inside with ciliated cylindrical epithelium, and contain a thin serous fluid. The cysts often reach a large size.

Kossmann has recently pointed out that the cysts of the broad ligament do not all come from the parovarium, but a great many of them originate from secondary tubes, which may be situated anywhere in the broad ligament. The cyst wall gives no indication as to the origin of the cyst, as muscular tissue occurs in the walls of both parovarian cysts and those from the secondary tubes. The fimbriæ of the secondary tubes become adherent and form little pedunculated cysts which Kossmann calls hydroparasalpinx

Cysts may also originate from the epoöphoron. The different tubes of this organ are often separated widely from one another by the development of the broad ligament, and cysts originating from them occupy different positions.

5. There are also cysts found in the broad ligaments, uterus, or vagina, which owe their origin to the Wolffian or Gaertner canals. The termination of these canals has not been definitely determined. Some claim they terminate at the uterus, others think they end at the cervix, while still others believe they extend down to the vagina.

6. Cysts are often found between the layers of the broad ligament,

which reach the size of a pigeon's egg. They are often symmetrical—that is, situated in both ligaments—and are situated near the larger vessels. They are lined with a simple layer of endothelial cells. The author believes them to be simply dilated lymph spaces, while Pozzi considers them cysts of the Wolffian ducts.

7. Charri has described some little cysts which he has seen about the uterine end of the tube. They are evidently diverticula of the mucous membrane of the tube, caused by a chronic catarrh which has destroyed the muscular coat of the tube.

8. Zedel has described a cyst the size of an apple, into which the right tube opened. The cyst was probably formed by growing together of the layers of peritoneum about the tube, forming a peritoneal sack into which the tube opens.

9. In addition to the above the author has found another kind of cyst situated under the serosa of the tube, always multiple, and placed along the whole length of the tube; two cases were observed. In both the cysts were about the size of an oat, and lined with cylindrical epithelium, which was often found undergoing degeneration.

The explanation of the occurrence of these cysts, the author thinks, is that they are formed by a folding in of the serous covering of the tube, due to inflammatory processes. The process is exactly similar to that which takes place in the ovary in the formation of Graafian follicles. The flat epithelium of the tube is changed to cylindrical epithelium under the influence of the inflammation. This change can readily take place, as declared by several observers. Thus Paltauf has seen a similar change take place in the pericardium after a pericarditis.

ON THE IMPORTANCE OF THE EXAMINATION OF THE ABDOMEN DURING THE PUERPERIUM, WITH SPECIAL REFERENCE TO THE INVOLUTION OF THE PUERPERAL UTERUS.

McCann says (*Brit. Med. Jour.*) the process of involution in the human uterus is of great interest to the physiologist, owing to the amount of the material absorbed in a short space of time. The exact causation has not as yet been definitely ascertained. To determine the period when the uterus has returned to such a size that the puerperal woman may without risk assume the erect posture, two methods of investigation have been used, namely, external and internal measurement.

1. External measurement—where the distance between the fundus uteri and symphysis pubis is measured, together with the breadth from side to side at the widest part.

2. Internal measurement—by means of the uterine sound to determine the length of the cavum uteri.

To the first method few objections can be raised, but to the second the dangers of infection must always retard such a procedure, more especially where a series of observations can be made, for example, in maternity

hospitals. Serdukoff employed external measurement, giving his reasons against the internal method as follows:

1. From the curvature of the sound being always the same, and from the fact that we have a varying axis of the uterus corresponding to the curvature of the sound, it follows that we do not by this method ascertain the natural length of the uterus as it lies anteflected or anteverted, but only an artificial length as it is straightened out.

2. The sound is not always easily introduced, and you can never be certain that at each observation the point touches the same part of the fundus.

3. This method is not unaccompanied with danger, however carefully it may be employed.

To these I would add a fourth:

4. The diminution of the uterine cavity is not proportionate to the diminution of the uterine tissue, being much more rapid. This I have proven by examination of puerperal uteri post-mortem.

It is clear, then, that the most accurate results would be obtained by combining the two methods. However, for all practical purposes the external measurement is sufficient, and on this account my observations will be confined to it.

METHOD.—In a series of patients the measurement of the distance between the upper border of the symphysis pubis and the center of the fundus uteri was taken by a tape measure drawn tight. These measurements were obtained daily at the same hour, due attention being paid to the condition of the bowels and bladder. Cases in which there was evidence of septic trouble were excluded.

Until the uterus has become a pelvic organ no patient should, after her confinement, be allowed to assume the erect position. This seems to me a scientific method of teaching, and stands in strong contrast to the teachings that a woman should get out of bed on a certain day, and should be permitted to walk on another fixed day. I would, therefore, insist on an abdominal examination being made in every case before a patient is allowed to assume the erect posture.

The evils attendant on the assumption of the erect posture too soon after labor or abortion must be impressed upon the mind of obstetric practitioners. How often do we meet with cases where constant bearing, down pains, discharge, and a train of symptoms which are associated with uterine disease can be traced to a confinement or a miscarriage, after which sufficient rest in bed had not been enjoined. Although the importance of rest has been urged by many writers, yet the frequent recurrence of cases of subinvolution shows that this advice has not been followed.

The causes which govern what we may conveniently term "normal involution" have not as yet been ascertained. As is well known, for a few hours after labor the uterus is contracted, expanding later, and followed from day to day by a gradual diminution in size. In this process there are two factors at work, namely, contraction and retraction, with the result that the uterus returns nearly to its pregestation size in six weeks. At the same time, the uterus of a woman who has borne a child is usually larger than the nulliparous uterus.

Although we do not yet understand the laws which govern the rate of involution in the puerperal uterus, there is abundant evidence of individual variation—for example, where women under the same condition are observed. It is known that certain factors do influence the rate of involution. Amongst these we have:

1. The effect of the prematurity of labor. Here, in all probability, the uterus is not prepared for the work which it is suddenly called upon to undertake, and therefore we expect to find a diminution in the rate of involution.

2. The length of the labor affects the rate of involution during the earlier days of the puerperium.

3. The rate of involution is greater during the first week of the puerperium.

4. The influence of lactation: It is universally accepted that the suckling of the child hastens the involution of the uterus by promoting uterine contractions.

In conclusion, let me again insist on the careful examination of the abdomen during the puerperium, to determine:

1. The position of the uterus.

2. The presence or absence of a uterine new growth, for example, a fibroid.

3. The condition of the Fallopian tubes, which are easily palpated during the first week of the puerperium.

4. The presence or absence of ovarian new growths.

5. The position and degree of distension of the bladder.

6. The condition of the intestines.

7. The presence or absence of any peritonitic or cellulitic inflammation.

THE INDICATIONS FOR VENTRAL FIXATION OF THE UTERUS.

The following indications for ventral fixation of the uterus are given by Dr. G. M. Edebohls in the *Medical News:*

1. Vaginal fixation of the uterus does not come within the sphere of legitimate operations in women liable to future pregnancies.

2. The indications for ventral fixation of the uterus should be limited to the utmost degree in women liable to subsequent pregnancy.

3. Ventral fixation is never indicated in uncomplicated retroversion of the uterus.

4. Inability of an operator to perform shortening of the round ligaments may be an indication for ventral fixation, but not in the case of one claiming to be a specialist in gynecology.

5. Ventral fixation is indicated, as an adjuvant, in the performance of combined operations for prolapsus uteri et vaginæ.

6. Ventral fixation is indicated as a closing step in all celiotomies in which the adnexa are removed and the uterus is left.

7. Ventral fixation may be indicated, under exceptional conditions, in

cases of adherent retroversion, with tubes and ovaries in good condition.

8. Ventral fixation may be indicated in the most aggravated cases of uncomplicated sharp retroflexion. The writer has not yet met such a case not amenable to successful treatment by shortening the round ligaments.

9. Ventral fixation is indicated under certain conditions, in cases of uterus unicornis.—*Med. Rev.*

SARCOMA, CARCINOMA, MYOMA, AND MUCOUS POLYPUS OF ONE UTERUS

Niedergall (*Gazette Med. di Paris*) describes a singularly complicated case. A woman, aged 62, suffered for nine months from irregular uterine hemorrhages, with watery discharge in the intervals. There was much pain. The uterus was considerably enlarged, but quite movable. The fornices were free. The curette was used and tissue removed, which proved to be villous cancer. Two days later a tumor, as big as a goose egg, was found protruding from the os and easily removed. It was a true fibro-sarcoma. Three weeks after its expulsion hysterectomy was undertaken. The patient recovered, and was free from any sign of recurrence six months afterwards. The uterus bore, in the region of the right cornu, a deposit of the size of a walnut, which proved to be epithelial cancer, villous or papillomatous in form. This was the deposit which had been partially scraped away by the curette. Two very distinct mucous polypi grew from the uterine wall, under which projected a small characteristic myoma. The co-existence of four absolutely distinct forms of new growth is remarkable. Such coincidences explain puzzling clinical appearances, and should remind enthusiasts that the curette is not always a reliable agent in diagnosis.—*British Medical Journal.*

URETERITIS IN WOMEN.

E. P. Reynolds, M.D., in a paper read before the American Gynæcological Society, says: "In my experience the majority of cases of ureteritis have been dependent upon an altered condition of the urine associated with renal insufficiency. This paper is, therefore, confined to a consideration of this class of ureteritis The chronic and acute stages of the disease, although essentially the same affection, will be discussed separately on account of the marked difference in the symptoms which they represent. The characteristic symptomatology of the chronic ureteritis consists in an increased frequency of urination, which is increased by the erect posture, but not wholly relieved by recumbency; the necessity of rising during the night for the purpose of micturation being always present in my experience. With this frequency of urination is associated a bearing-down pain, which is especially aggravated by standing, and relieved by rest in bed. These two symptoms may be due to other pelvic lesions, but should always

excite a suspicion of ureteritis. The physical signs of the disease are limited to a complaint of tenderness and usually of a desire to urinate on compression over the affected end of the ureter or ureters. In addition to this, examination of the bladder usually shows alterations in the appearance of the ureteral orifice, and often in the neighboring mucous membrane of the bladder. In eight consecutive cases of unilateral ureteritis, catheterization of the ureter has shown a disease on the affected side. It seems probable that the urine, in cases of renal insufficiency, may contain an irritant substance which is the result of imperfect metabolism, and that in unilateral cases the one-sided ureteritis not improbably bears a resultant relation to the relatively increased renal insufficiency upon that side.

Treatment is divided into palliative and curative methods. The palliative methods are applicable only to cases in which painful micturition is dependent upon ulceration or localized inflammation of the vesical mucous membrane in the neighhorhood of the ureteral orifice. I would recommend a careful localized application of the solid silver nitrate to such inflammatory surfaces. It consists of the ingestion of a large amount of water, accompanied by an alkaline diuretic; a bland, nutritious and largely albuminous diet—restricting the use of most of the more highly flavored vegetables, and absolutely interdicting strawberries and asparagus. To these measures should be added massage, or light, gentle exercise. The only drugs I have found of value are the so-called alteratives (preferably small doses of mercury, potassium iodide, or mercury and iodide mixed) which act upon the ureteritis, presumably by improving the general metabolism of the body.

Acute ureteritis is a frequent, though not dangerous affection—probably often mistaken for severe intestinal colic, for renal stone, catarrhal appendicitis, or catarrhal salpingitis. It appears as a sudden attack of abdominal pain, which is usually marked upon one side and slight upon the other. It is distinguished from other affections mentioned by the fact that its tenderness moves steadily downward through the attack, beginning at the pelvis of the kidney and ending in the vesical portion of the ureter. The abdominal tenderness is often easily overlooked on account of its close localization to what I shall call the three cardinal points in acute ureteritis; the first of which, characteristic of the beginning of the attack, is situated over the kidneys and its pelvis; the second, characteristic of the middle portion of the attack, is identical with McBurney's point or its fellow on the other side, is situated half-way between the umbilicus and the anterior superior spine of the ileum; the third is situated about an inch above the middle of Poupart's ligament. Until the time when this last mentioned tenderness appears vaginal examination is negative, but at this time tenderness, and usually swelling of the vesical end of the ureter, can be detected by the finger. The urine is not always characteristic, but occasionally shows crystals of uric acid and calcic oxalate in an otherwise limpid urine.

The affection tends to a recovery without treatment. It probably ends in the chronic form of the disease, but with treatment similar to that of the chronic affection is usually completely thrown off.—*The Med. Stand.*

CÆSAREAN SECTION THRICE PERFORMED ON THE SAME PATIENT.

Van de Poll (*Centralblatt für Gynäkologie*, 1897, No. 21, p. 554) has reported the case of a woman whose first pregnancy terminated in the spontaneous delivery of a putrid fetus; the second in the instrumental delivery also of a putrid fetus. In the third labor, after the discharge of a considerable amount of amniotic fluid, the fetus was found to occupy a transverse position, an arm prolapsing. Decapitation was performed and the body of the child extracted. During the necessary manipulations it was found that the pelvic inlet was greatly contracted, but the head was expressed with some little effort. The head and the placenta were in process of putrefaction. Rigid antisepsis was observed, and the puerperium was uncomplicated. Subsequent measurement showed the pelvis to be of generally contracted, flat, rachitic type. The patient was instructed in the case of another pregnancy to present herself for Cæsarean section; and accordingly, about a year later, this operation was performed, the child living, and the only complication being a mild circumscribed peritonitis. Some 2½ years later the woman again became pregnant, and again was Cæsarean section performed, with the delivery of a living child. After an interval of seven years the woman became pregnant for the sixth time. After incision of abdominal wall and uterus a slightly asphyxiated child was delivered and resuscitated. On account of the firm adhesions between the anterior surface of the uterus and the abdominal wall it was decided to remove the uterus by the method of Porro, and a portion of the abdominal wall, which was the site of adhesions, was excised. Continuing hæmorrhage from the vagina, after closure of the abdominal wound, necessitated reopening, and a small bleeding vessel was ligated. Other than a slight diarrhœa the further progress of the case was uneventful.

THE DOCTOR'S BICYCLE.—Every city has municipal laws, says the N. Y. State *Med. Rep.*, which prohibit the riding of bicycles upon the side-walks, and demand that the rider proceed at a reasonable speed along the main thoroughfares. These laws, as a rule, are very exacting, and not infrequently physicians, in their haste to reach patients, are obliged to violate the common ordinance, and oftentimes are obliged to pay fines in common with the rider who is out for pleasure pure and simple. Such laws are wrong, for frequently, should the physician go at the speed and in a manner in accordance with the ordinance, a life would be endangered and possibly sacrificed. We believe that physicians are entitled to more than ordinary consideration in the matter of bicycle riding in the cities, and have no doubt that the authorities, if the subject was presented in a proper manner, would grant them the desired protection. In conclusion, we would like to insist that the matter be taken hold of generally by the profession, and wherever possible supported by both the medical and public press.

NERVOUS DISEASES AND ELECTRO-THERAPEUTICS.

IN CHARGE OF
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ABSTRACTS AND EXTRACTS.

THE CONNECTION OF AUTO-TOXIS WITH INSANITY.—At a general meeting of the Medical Society of London, May 11th, Dr. Allan McLane Hamilton presented a contribution on this subject. He had conducted clinical observations and experiments on animals, to determine whether there was any specific or noso-toxicity of the urine of the insane, and, if so, its nature; next, to discover how important and general was the theory of uric-acid poisoning; and, again, whether mental disorders were produced and modified by an auto-toxæmia, whether the offending substances were the leucomaines or the intrinsic products of putrescence in the intestines. With regard to the existence of noso-toxosis, observations on six patients proved negative, and in rabbits the results were neither constant nor characteristic. The resulting effect seemed to depend upon the increased specific gravity of the urine, and on the evidences of intestinal disorders and malnutrition. The urine of the paretic was always exceedingly toxic, which property was possessed by that of the periodic patient, whose urine showed a large amount of indican, which in only one of the other cases of mania in which the specific gravity of the urine was high, was any result obtained by the injection. In regard to uric-acid poisoning, he was convinced that it had not so much to do with the genesis of mental disease as has been claimed for it. The experimental use of hypoxanthin on rabbits aud monkeys had been followed by effects in only one subject. His cases unquestionably bore out the assumption that disturbances of the gastro-intestinal tract were attended by bacterial necrosis, and the introduction into the general circulation of certain very virulent toxic agents, whose effects were expended mainly upon the nervous system. A sudden and rapid development of incoherence, with mal-assimilation, highly-colored urine, and delusions that were unsystematized, clearly suggested an inquiry into the condition of the organ of digestion, and the first step should be a complete examination of the urine and fæces. The presence of indican in the urine of the insane has great significance, for in all the cases that were not simply evolutional it had been discovered in excessive quantities, in connection with the development or as a feature of an exacerbation of an existing mental disorder. An excessive amount might be taken to mean any amount susceptible of detection by Jaffe's test. In melancholia the amount of indican depended upon whether the disease was of the stuporous or agitated variety, the quantity not being

nearly so great in the former. Variations in the hæmoglobin and red corpuscles were closely associated with the absorption of toxic substances, the extent of which was announced by the increase of the combined sulphates, while the physical appearances were those of malnutrition.

Undoubtedly many puerperal insanities, especially those of the maniacal variety, were due to fœcal accumulation. Alcoholic insanities, as well as other forms, whether acute or chronic variations prevailed, must be studied with regard to the condition of the intestines. The management of these cases not only included the provision of an absolutely suitable diet, but the use of antiseptics and mechanical means for cleansing the alimentary tract. It had been shown that the lower bowel was usually the seat of infection, hence the necessity of thoroughly washing out from as high a point as possible, using a long rectal tube. Salicylate of soda had been found the most reliable intestinal antiseptic. In replacing the diminished hæmoglobin and red corpuscles, best results had been obtained from a mixture of glycerite of the red marrow of small bones with bullock's blood.

The following conclusions were formulated:

1. Urines rich in indican contained very little or no pre-formed sulphuric acid and were toxic.

2. When the sulphate ratio is materially changed it probably indicates auto-toxis in connection with an increase in the amount of combined or ethereal sulphates.

3. Such indications were generally found with acute insanities on which rapidly developing symptoms occur.

4. Changing illusions and hallucinations, unsystematized delusions, confusion, and verbigeration, in connection with insomnia, pallor, intestinal indigestion, constipation, and rapid exhaustion, are due to auto toxis.

5. Paranoiac states, or those in which concepts are the features, chronic stuporous conditions, and certain forms of dementia, have little to do with the formation of intestinal products of putrefaction.

6. Various post-febrile, traumatic, alcoholic, or drug insanities are those in which auto-toxis is most constant.

7. Variations in the excretion of combined sulphates keep pace with the changes in the progress of an established insanity, epileptiform attacks being directly connected with putrefactive processes.

8. The most successful treatment consists in lavage, intestinal douches, gastric and intestinal antisepsis by means of hydrochloric acid, borax, salicylate of soda, charcoal, guaiacol, or naphthalin, in small and repeated doses, and the administration of a combination of the red marrow from the small bones, blood, and glycerin.—*American Journal of Insanity.*

EPILEPSY OF CARDIAC ORIGIN.—At the session of the Medical Society of Nancy, *Oaz. Hebd.*, June 4th, M. P. Parisot reported the case of a man aged eighty-seven, who had for eight years suffered from epileptic attacks, with change of character appearing twenty-four hours before, premonitory digestive disorders, or tremors, pallor of face, etc., with subsequent mental dullness, which usually appeared under the influence of an insufficient action of the heart. The patient is an arterial cardiopath, no albu-

men in the urine, and no syphilitic or paralytic antecedents. M. Parisot offered the following conclusions:—

1. Epileptic attacks engendered by a cardiopathy seem to have no special symptomatology.

2. When the cardiac origin of the attack is well demonstrated, cardiac medication and rest are indicated, so as to re-establish the cerebral circulation.

3. Bromide treatment ought not to be neglected, but it is necessary to use the potash salt with great caution, and to employ preferably the bromide of sodium.

In discussing the paper, M. Bernheim held that the disorder was due directly to gross organic changes in the brain, cortical lesions of old age, without which he had never observed epilepsy in the aged.

THERAPEUTIC EFFECTS OF CURRENTS OF HIGH FREQUENCY. — D'Arsonval, in giving very careful attention to the therapeutic action of currents of high frequency, has reached some very interesting results. He finds marked benefit from the use of this form of electricity in the class of diseases due to the lack of nutrition, such as diabetes, gout, rheumatism, obesity, etc. Two cases are recorded in detail, one of diabetes and one of gout. The apparatus used permitted the passing through the body currents of which the intensity was upward of 500,000 milliamperes. In its application, the currents, which came from a solenoid, were brought to the body by means of conductors with appropriate electrodes. One of the poles of the solenoid was connected with the water in a foot bath, in which the patient placed his feet. The second pole was connected with both hands by a two-part conductor, terminating in metallic handles. Under these conditions the current was distributed, and its intensity raised between 350 and 500,000 milliamperes. The duration of treatment, made daily, was at first six minutes, it was then lowered to five or three minutes, according to the sensations of the patient.

One would naturally suppose the current might be painful, and the beneficial effect arise partly from suggestion, but this is not the fact, for the current acts without the knowledge of the patient, yet it penetrates deeply into the organism, and operates notably on the vaso-motor centres.

The experiment was conducted with extreme care at every step, only the most careful and intelligent assistants being employed, who recorded with the utmost care every change in pulse, temperature and respiration. —*N.Y. Medical Times.*

FOLLOWING the experiments of Berger in combining certain antipyretic and analgesic agents for the relief of various forms of neuralgia, Dr. Veasey has found the following combination of great service in the treatment of *migraine :*

Phenazone	32 grains.
Phenacetin	24 grains.
Acetanilid	8 grains.

Divide into eight powders. Mix.

One of these powders is given as soon as the approach of the attack is discovered, and repeated twice at intervals of a half-hour if relief is not obtained before the expiration of this time.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

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THE SUPRARENAL BODIES.

MUHLMANN (*Deut. med. Woch.*, June 25th, 1896), discusses the functions of these organs. Extirpation of the suprarenals has been proved to produce severe and fatal circulatory and nervous symptoms in rabbits and guinea-pigs. The blood of guinea-pigs from whom the suprarenals have been removed has marked poisonous properties. A substance has been separated from the suprarenals which has been stated to be brenzcatechin. As yet, the question of the active agent of the suprarenals has not been definitively settled. The author has extracted some substances from the suprarenals in which no brenzcatechin was present. He believes that the active principle does not consist of a single substance. Some characteristic reactions of brenzcatechin, such as the ferric chloride reaction, etc., can be obtained in the fresh suprarenal, or in one which has been in alcohol for a short time. If a section is made, and a few drops of dilute ferric chloride added, the medullary substance is colored green, while the cortex remains unstained. Thus, the brenzcatechin is formed in the medullary portion of the organ. Our knowledge of the minute structure of the suprarenal is still deficient. The medulla is made up of nerves, epithelium, and connective tissue, including blood and lymph vessels. The epithelial element is small. It may be supposed that the material out of which brenzcatechin is to be formed is built up in the cortex. The chief substance concerned in the formation of this body is present in the blood itself, and is derived from vegetable foodstuffs—namely, from protocatechu acid. Brenzcatechin, like suprarenal extract, produces a rise of blood pressure. The formation of brenzcatechin in the suprarenals is of the greatest significance for pathology; it appears to throw some light upon the pigmentation of Addison's disease. Brenzcatechin, when exposed to light, or when in contact with tissue in alkaline solution, becomes brown. It is represented that in Addison's disease the brenzcatechin is not changed at once into some other harmless combination, but gains access into the blood. It is oxidised in the blood, and is changed into a brown product which discolors the skin. Its poisonous properties explain the severe symptoms of the disease. The author thinks that this hypothesis would also be in accordance with the disease of the coeliac ganglia in Addison's disease, as to these ganglia may be confided the functions of rendering brenzcatechin harmless. Gourfein (*Rev. Méd. de la Suisse Romande*) has found that destruction by cauteri-

sation in frogs, or removal of the glands on pigeons, leads to a rapidly fatal result. Destruction of one, whether the right or left, suprarenal body only is not followed by any bad result. If only a tenth part of the suprarenal tissue is left, the animals live from two to nine weeks, and then die from wasting. From this it follows that the suprarenal bodies exercise a marked influence on the general nutrition of the organism. If after the glands have been removed from an animal a graft of the suprarenal capsule from another animal of the same species is made, life is prolonged, and the symptoms modified, but a graft from an animal of a different species does not have this effect. Accessory suprarenal capsules may vitiate the effect of removal of the glands, and their presence explains the contradictory results obtained by some observers. Damage done during the operation plays no part in bringing about death in acapsulated animals. The suprarenal bodies have a chemical action in the organism, and probably neutralize one or more toxic bodies of unknown nature. The author's observations do not support the view of Abelous and Langlois, that acapsulated animals are in a condition of curarisation, since he found that the motor nerves and their intramuscular endings in acapsulated frogs retained their electrical excitability, and their action on muscles up to and even after death.—*Br. Med. Jour.*

URTICARIA OF THE RESPIRATORY PASSAGES.

Delbrel has collected (*Journ. de Méd.*, July 25th, 1896) a large number of cases and records of this condition, and from these he draws the following conclusions· There are two types of urticaria affecting the respiratory passages: (1) In certain cases the cutaneous eruption appears first, and is followed by respiratory trouble; (2) in others the respiratory symptoms first appear, to be followed later by the eruption, and it is in this latter that the greatest difficulties of diagnosis and the greatest danger to the patient may arise. In many instances the urticarial affection so closely resembles other respiratory disorders that in the absence of any cutaneous condition diagnosis may be almost impossible, and it may even happen that the only manifestation of the disease is that affecting the respiratory mucous membranes. Some cases simply resemble an attack of asthma; others manifest themselves by suffocative attacks with irritating, hacking cough, closely simulating œdema of the glottis, for which they may be mistaken. In such cases a laryngoscopic examination may be of great use, though, unfortunately, it may fail even in skilled hands, as it seems to cause increase in the symptoms. In the instances where it has been carried out, red raised erythematous patches have been found in the posterior pharynx, and, though it may be impossible to obtain a view of the eruption in the larynx or trachea, the existence of such patches in their neighbourhood may be of use. In the cases where the respiratory affection is severe, the symptoms may be most alarming. There is no regularity as to the time of their appearance after the ingestion of some article of diet, etc. The author states that severe cases not

infrequently end fatally; others may last for periods varying from a few hours to several days, and the appearance of cutaneous urticaria seems to be a favourable sign. He suggests that, in acute cases with severe pulmonary symptoms and no cutaneous eruption, brisk friction should be applied to the skin, in order to induce its appearance.

GONORRHŒA FROM A FORENSIC POINT OF VIEW.—A. Neisser, Breslau (*Cntrlbl. f. Gyn.*, No. 14, 1896, p. 379). The author dwells upon the great difficulty in making a diagnosis of gonorrhœa. Clinically, he thinks it is absolutely impossible as a secretion resembling in every respect that of gonorrhœa may contain no gonococci and may depend upon an entirely different cause. Moreover, it is not possible to tell, in women, at what time they received the infection; and if the disease is confined to the uterus without involving the urethra it may run its course entirely without symptoms. This is especially true with chronic gonorrhœa. The author, however, does not believe, like many observers, that a man with latent gonorrhœa can give the same to a woman, but that the virulence of the gonococci remains always the same, and gonorrhœa is always given as an acute gonorrhœa. For this reason a man may give his newly married wife an acute gonorrhœa, although he considers himself cured; and conversely many cases of acute gonorrhœa in men are acquired from women who show no signs of the disease and where, microscopically, but very few gonococci can be found in the secretions. In chronic gonorrhœa the microscopical examination is somewhat unsatisfactory as the cocci are not found in the cells as in the acute cases.

Wertheim's method of cultivating the gonococci on blood serum and agar-agar is unsatisfactory in chronic gonorrhœa, as the culture-medium soon becomes covered with growths of other bacteria which are present in large numbers and which grow more rapidly than the gonococci.

In conclusion he, like most other authors, believes that the diagnosis of gonorrhœa is exceedingly difficult, but that in certain cases it may be made by means of the microscope. In all forensic cases he recommends that microscopic preparations of the secretions be made, as they can be shown to a number of observers.

GLYCOSURIA IN FEBRILE CONDITIONS.—Poll (*Fortschr. der Medicin*, July, 1896) has investigated the occurrence of glycosuria in febrile conditions where sugar has been taken in the diet. The observations were made in 16 cases of febrile disease, including pneumonia, typhoid, quinsy, rheumatism and scarlet fever. The temperature varied from 99.6° to 105°, F. Glucose was administered in doses of 100 to 150 g., and the urine carefully watched afterwards. It was found that glycosuria occurred in 14 out of the 16 cases within a short time of the administration, and lasted two to thirteen hours. It seems that lobar pneumonia is specially liable to show this diet glycosuria. Poll considers that the special proneness to this form of glycosuria in febrile disease is due to the failure of storage of glycogen in the liver, as shown by experiments on animals, and hence the excretion by the kidneys, as sugar from the blood.

NOSE AND THROAT.

IN CHARGE OF

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SOME RECENT MODIFICATIONS IN THE SURGICAL TREATMENT OF DISEASES OF THE ATTIC AND MASTOID PROCESS.

BY ADOLPH BRONNER, M.D.,

Surgeon to Bradford Eye and Ear Hospital, Laryngologist to Bradford Infirmary.

The technique of operating on the mastoid process has of late years undergone such important and radical changes that I may perhaps be excused for bringing the subject before you to-day.

Diseases of the attic and mastoid process are very common, and if not operated on early and with great care, they are extremely fatal.

We all of us have seen many cases in which no operation was thought of or performed till the disease had spread to the brain, or in which the operative treatment had been restricted to Wild's incision, or to the use of the gimlet or gouge. Schwartze, of Halle, was one of the first to suggest a thorough surgical method of operating; he published a series of cases * in 1873. He opened up the mastoid antrum and cells from behind the ear, and established free drainage between these parts and the middle ear. The wound was kept open by plugging or by a lead nail. This method was universally adopted from 1873 to 1889. Experience, however, soon proved that Schwartze's method was very successful in acute cases, but that many chronic cases did not heal for several months, and that even then the disease frequently broke out again. In 1889, Kustner † recommended that, in all cases in which the middle ear was extensively diseased, we should not be content with Schwartze's operation, but should also remove the whole of the posterior wall of the osseous external meatus. A drainage tube was passed through the antrum and meatus. In the same year, Bergmann ‡ suggested that the posterior and also the upper wall of the external meatus be removed. Lucae § pulbished a similar method. Stacke, in 1892,¶ modified Schwartze's operation to a considerable extent. His method is now adopted in all chronic cases. It marks an important advance in aural

* Arch. f. Ohrenheitkunde, vii. and ix.
† Deut. Med. Woch. x. and xiii.
‡ Die chirurgischr. Behandlung. der Gehirnkrankheiten.
§ Arch. f. Ohrenheitkunde, xxi.
¶ Berlin kein Woch. 44 and Arch. Chrenheilkunde, xxxi.

surgery. A long incision is made behind the ear, the cutaneous external meatus is loosened and cut through, as low down as possible, and the whole ear then drawn forwards. The ossicles and remains of the membrana tympani are removed, a protector is passed into the attic, and the lower and outer wall removed by the chisel. The upper and outer wall of the external meatus and the outer wall of the mastoid antrum are then removed in a similar manner. A large cavity is thus formed, consisting of the middle ear, the attic, and the mastoid antrum. The ear is then replaced and the wound stitched up or left open, according to the extent and nature of the disease.

Macewen and Horsley prolong the incision round the top of the auricle, and then draw the whole of the ear downwards. I greatly prefer this method, as it gives you a much better view of the diseased parts. Macewen also uses a large burr, connected with a dental engine or electric motor, instead of the chisel. The great advantage of Stacke's method is that we are enabled to carefully examine the affected region, to remove thoroughly all diseased parts, and to readily watch and control the field of operation during the process of healing.

A subsequent retention of pus in the attic or middle ear thus becomes impossible. The operation is often rendered very difficult and complicated by the fact that the size and position of the mastoid antrum and cells, the floor of the middle cerebral fossa, the position of the lateral sinus, and of the facial canal vary to a considerable extent in nearly every case. There is often severe hæmorrhage from the bone, especially from a small branch of the stylo-mastoid artery in the posterior wall of the external meatus.

One of the drawbacks of Stacke's operation is the difficulty in keeping open the large cavity which has been formed and of covering it with epithelium. To accomplish this, the cutaneous external meatus is cut through horizontally in one or more places well into the auricle, and a flap or flaps are formed which are stitched to the edges of the external incision or to the periosteum. In many cases we remove part of the subcutaneous tissue of the flap.

Schwartze does not cut through the whole of the cutaneous external meatus, but only through the posterior part, and he leaves the anterior half in contact with the bone. In very bad cases, or in cases of cholesteatoma, a flap is formed from the skin behind the ear and inserted through the external wound into the cavity. A permanent opening is thus formed behind the ear. The cavity is well and carefully plugged with gauze, any granulation tissue removed by chromic or trichloracetic acid, and alumnol, aristol, or airol powder insufflations used. Iodoform often induces excessive growth of granulation tissue, and should only be used for the first few days, or longer if the granulations are unhealthy or scarce. The application of glycerine of carbolic acid or hydrarg. perchlor. (1 in 500) for a few days is useful if the discharge is offensive, as it so frequently is. I always dress the wound daily for a few days, and then every second or third day, according to the amount and the character of the discharge, and the temperature. It is a question of great importance whether we should keep the external wound open or not. In all

cases of cholesteatoma we try to keep a permanent opening by the transplantation of skin. In ordinary cases, I keep the wound open as long as there is any rise in temperature or much discharge. By making flaps out of the cutaneous external meatus, we secure a permanently large external meatus (large enough to admit the tip of the finger), and we can thus readily overlook the large cavity which we have formed, and prevent any accumulation of pus or growth of granulation tissue which would cover any diseased bone. A recurrence of the disease is thus rendered very improbable. It is of great importance that the walls of the cavity should be smooth, and that it be well and carefully plugged for the first few weeks.

The symptoms of disease of the attic and the mastoid process are often well marked and evident. Frequently, however (and these are the most dangerous cases), the symptoms are few and obscure; and it is most difficult to diagnose how far the disease has spread and to know if we should operate or not. If we are thoroughly acquainted with the local anatomy and the technique of the operation, the danger attending the operation is very slight. We make exploratory incisions in obscure abdominal cases, why not in obscure mastoid cases? Surgeons, as a rule—and certainly general practitioners,—seem to treat diseases of the mastoid process with something like contempt. They do not seem to realize the dangers of cerebral complications, and they often fail to recognize that early operative treatment would frequently save the patient's life.

In conclusion, it may perhaps not be out of place to enumerate briefly the indications for operative interference according to Schwartze. The mastoid should be operated on:

1. In acute primary or secondary inflammation of the mastoid process if under treatment the symptoms do not improve in a few days.
2. Chronic inflammation of the mastoid process, with recurrent attacks of swelling.
3. Fistula over or near the mastoid process.
4. Chronic inflammation of the middle ear without apparent affection of the mastoid process if there are any symptoms of retention of pus or of diseased bone (pain, fever, etc.), or if there is a cholesteatoma.
5. Persistent pains over the mastoid process.
6. Chronic ottorhœa without any symptoms of retention of pus or swelling of the mastoid process as soon as we have reason to think that the inflammation has spread beyond the middle ear.—*Br. Med. Jour.*

TRACHEOTOMY.—The necessity for performing tracheotomy may arise when the surgeon is unprovided with tracheotomy tubes. Disinfect a fairly large hairpin, and bend both ends at a rather acute angle at about the middle of their length. The ends of the branches may then be twisted into small hooks or rings, to which tapes may be attached. The blunt end of the hairpin is inserted in the trachea, and the branches tied by tapes fastened behind the neck. This will serve until proper tubes can be procured. Failing a hairpin, take a stitch on each side of the opening in the trachea with stout silk, and tie the ends behind the neck. Any piece of iron or copper wire, of suitable size, may serve as well or better than the hairpin.—*Ala. M. & S. Age, Med. Rec.*

PAEDIATRICS.

IN CHARGE OF

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1. We are pleased to note that a few days ago the authorities of the Health Department of the city secured the summary conviction of a mother who persisted in attending church service, in spite of special warning to the contrary, while nursing a child ill with scarlatina. The perverseness and criminality of one who needed warning to prevent such action at all, much more who disobeyed the orders of the health inspector, are amazing,, and would have justified even more drastic treatment than it received from the police magistrate, who accompanied the fine of $10 and costs with severe remarks upon the conduct of the culprit.

It is a great pity that the personal element entering into the relations of the local health authorities and the public, in smaller and more rural communities, should prevent similar salutary strictness elsewhere. The example of Toronto in this should be followed.

ON THE CARE OF PREMATURELY BORN INFANTS.—A. Schmidt (*Jahrb für Kinderheilkunde.* 1896. Xlii, 301) says that the proper feeding of prematurely born infants is certainly a very important question; but even more so is the temperature in which such a child is kept. It is not sufficient to clothe them warmly, pack them in cotton, and place warm bottles around and about them, but it is equally important, in washing and dressing them, in carrying them from one room to another, in the opening of windows and doors, to be exceedingly circumspect that they never he subjected to draughts or to sudden change of temperature. It is not absolutely necessary to use an incubator. The same object may be attained without the use of this complicated apparatus, if the child, after being warmly dressed and surrounded with cotton and warm bottles, be placed in front of a hot stove. By weighing the child daily, it was demonstrated that hardly anything had such an influence on the steady increase of bodily weight as an even, high temperature. The temperature of the room should at first be kept, day and night, at 72½° to 75° F., and the very slightest deviation from this rule would have a bad effect on the weight of the child. Even a slight fall in temperature, or the washing and dressing of the infant too slowly, or too far away from the heat of the oven, would invariably produce dangerous symptoms of collapse. The use of two rooms, one of which could be ventilated and again heated before the infant is brought back into it, would be advisable. Prematurely born children should not be bathed at all during the first two months of their existence. They should be quickly washed with warm water, once a day, and only one part of the body at a time should be exposed. The tender skin must be carefully washed and

dried with cotton batting, and a powder of talcum and zinc oxide thoroughly dusted on the parts most prone to become excoriated. Abrasions must be touched with a little brandy before powdering. These children are to be taken out into the air only with the greatest caution. It was found that a child, who had gained a half-pound every week, showed great disturbance in its progress from the day it was taken out into the warm sunshine and perfectly still air of the garden. There was absolutely no other reason for the sudden and enormous retardation of its increase in weight. In some cases, however, it may be beneficial to give them an airing after a few weeks, but it should only be done during the hottest days of summer, when there is a total absence of wind. Never should these children be taken out of their pillows, or laid, on the ground. Their clothing should be the same as other babies', but should be thoroughly warmed before the fire until perfectly dry, then wrapped around a hot warming bottle and transferred directly on to the child's body. It is absolutely necessary that a little woollen shirt with sleeves should be slipped over the muslin one. Should the child vomit during sleep every other material will become soaked and wet; wool not taking up water so readily allows the greater part of the fluid to run off, and the skin of the child remains dry and warm. Very frequently children are protected only by one muslin diaper, without an additional flannel one over it. These children after urinating suffer from a cold and wet abdomen, and severe colds and disturbances of nutrition may result from this. A flannel diaper should always cover the cotton one. It should be of square shape during the first eight weeks, and fastened round the body and thighs from the outside, not like the triangular cloth passed between the thighs, because the presence of such a quantity of material is apt to press the thighs apart and produce sabre legs. After eight weeks a triangular flannel may be used to cover the cotton diaper.

It may be advisable at about the seventh to the ninth month, when the child by its lively movements continually displaces the diaper, to give it two pairs of small trousers, the outer being made of flannel.

Prematurely born children usually sleep day and night if they progress favorably; therefore it is necessary from the first to carry them about the room, warmly packed up, for ten minutes three to four times a day. While they are lying in bed, their position should be changed every two hours to prevent hypostatic congestion of the lungs.

RACHFORD, B. K.: THE CHILD IS NOT A LITTLE MAN. *(Cincinnati Lancet-Clinic.* 1896. Vol. XXXVI., No. 19.)

In an admirable address delivered before the Woman's Club of Cincinnati, the author points out the fallacy of the idea that a child is simply a miniature edition of a man. He notes the fact that many intelligent mothers seem to act toward their children as though they believed with Dryden, that "Men are but children of a larger growth;" but, as we shall see, in this poetic line Dryden was wrong, and the mothers who treat their children as little men and women are also wrong, and are pursuing a course which will not result in making the best possible men and women of them.

The man is not simply an enlarged edition of the child, the child is not uniformly and symmetrically enlarged to make the man, and in the development of the child into the man there is not a common ratio of change between the various organs of the body.

In some of his organs and functions the child is the superior of man, in others his equal, in others immensely his inferior. The child, in a biological sense, is a very incomplete structure, lacking in symmetry and uniformity. When man is finished, his organs have reached that stage of structural and functional development which they are destined to attain.

There are certain glands in the body, of which the thyroid is a type, whose function has to do with the animal chemistry upon which depends the rapid and satisfactory growth of the body during childhood. In the better functional development of these glands the child is the superior of the man. Again, in the structural and functional development of many of his organs the child is almost, if not quite, the equal of man. The heart and blood-vessels carry on the circulation of blood in as satisfactory a way during childhood as they do in adult life. The kidneys are as perfect in structure and in function at birth as they ever become. The lungs, the muscles, the bones, and the various glandular organs of the body perform their functions in almost as satisfactory a way during childhood as they do in adult life. In short, one may say that all the organs and tissues of the body, except those of the nervous and reproductive systems, reach a fair degree of structural and functional maturity during childhood. In so far, therefore, as the lungs, the heart, the muscles, the bones and the glands are concerned, Dryden was right when he said, "Men are but children of a larger growth;" but in so far as their nervous and reproductive systems were concerned he was wrong. And it is to these important exceptions that the author refers particularly. The most important fact, and the one which should be the most strongly impressed upon the mind, is that at birth the nervous system of the human infant has comparatively a very low degree of functional and structural development. Compared with the respiratory, circulatory and excretory organs, the nervous system not only has a poor start, but in the race for development lags far behind. A very peculiar fact in this connection is that in size and weight the nervous system develops more rapidly than does either of the other systems. But in its functional development it is far behind. At the age of seven the brain has attained ninety per cent. of its maximum weight. Increase in bulk after fourteen is extremely slight. Yet all the higher emotional and intellectual qualities develop after fourteen.

In his nervous system, therefore, the child is not a little man. His nervous system is undergoing rapid structural development, but in function it is undeveloped, unstable, and weak, and may require assistance and protection at every stage of its development. The great mass of brain and nerve tissue, which is so rapidly developed in the young child, is, in its functional capacity, notoriously incompetent to stand the strain of sustained intellectual effort without perverting the energizing capacity which should be spent in the development of tissue and structure. Early

childhood should, therefore, be the play-time, and not the study-time, of life, and in late childhood also the nervous system should be protected against the baneful influence of sustained intellectual effort.

One should always remember that it requires a period of twenty or twenty-five years for the nervous and reproductive systems to reach functional maturity, and that during the greater portion of this time these are the only parts of the body which are functionally undeveloped. But if all goes well, the nervous and reproductive functions will mature, and then we may have a uniform and symmetrical individual of equal and satisfactory functional development in all of his organs. Such is the ideal development to which the normal child, under favorable conditions, may attain. Every child starts on his way in life with certain inherited possibilities of development, and it should be the object of every mother, guardian, and teacher to build upon this foundation the best possible superstructure that it will safely sustain.—*Arch. of Pediatrics*, Nov., 1896.

CHOREA.—Dr. E. De Renzi (*Gazetta degli Ospitali e delle Cliniche*, 1896, No. 29), has made use of eserine, antipyrin, salol, and ether spray along the vertebral column; but he places his confidence in only three remedies: (1) Absolute rest, the patient being placed in a dark room and avoiding all external excitation whatever. (2) The ascending electrical current along the spinal cord—the best result with a gentle current progressively increased. (3) Arsenic in large doses, commencing with twenty drops of Fowler's solution each day for children and double this amount for adults. The medicine should be continued after the chorea ceases, for the disease readily returns. The nutrition of the patient must be maintained, and good food and gymnastics are useful.—*Med. Record.*

THE CLINICAL SIGNIFICANCE OF THE CHILD'S FONTANELLE.—Dr. J. A. Abt said that in health the fontanelle does not sink below or rise above its bony frame. It has both respiratory and pulsatory movements. With increased intracranial pressure the normal bruit may quite disappear. An early ossification interferes with brain development and produces a brachy-cephalic skull. In rachitis the involution of the fontanelle is delayed. Marked bulging is caused by the collection of fluid within.

The abnormal retraction of the fontanelle always indicates a condition of inanition. It may be temporary; if chronic, it is a serious condition. A deeply-sunken fontanelle is always a danger-signal in any case. Ossification occurs normally at fifteen to eighteen months. Protuberance and tension indicate meningitis.—*Pediatrics*, Nov., 1896.

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Editorial.

THE EFFECT OF OÖPHORECTOMY ON WOMEN.

There is probably no question in gynæcology regarding which greater difference of opinion exists than that of the effect of "castration" on women.

Dr. Goodell agrees with Heger that the artificial menapause is often attended with more serious complications than are, not infrequently, attendant upon the natural change of life.

Then, again, mental disturbances, characterized by low spirits, melancholia, and even insanity, can clearly be traced to removal of the ovaries.

Keith states that 10 per cent. of his patients recovering from hysterectomy subsequently suffer from melancholia, or from other forms of mental trouble.

Formerly, Dr. Goodell maintained that oöphorectomy, after puberty, did not entirely unsex a woman; her capability of being impregnable was lost, but the sexual feeling remained much the same. But a riper experience taught him that with the majority of cases the sexual feeling gradually abated, much sooner than after the menopause of nature, and that in many cases it disappeared. In the special committee to investigate Imlach's cases of castration at the Woman's Hospital in Liverpool, they found "a distinct loss of sexual feeling" to such an extent as to cause serious domestic unhappiness in not a few instances. Dr. Goodell otherwise found no marked physical or psychical change.

The affections remain the same, the breasts do not waste or flatten, obesity does not ensue, and the tone and quality of the voice remain unchanged ; or, in other words, there is no tendency to the formation of a masculine type. In fact, if any change takes place it is in the direction of "old-maidhood." In consequence of this experience, he advises that an effort be made to restore a woman's health by resorting to other than operative measures.

If oöphorectomy is the *dernier ressort*, then, he says, never remove a healthy appendage unless the menopause is established, or there is good reason for hastening it. The latter may be the case for women with

excessive or morbid sexual appetite, dependent upon ovarian or uterine disease. In such the operation usually results in the extinction of the appetite.

Should the appendages be merely adherent, and not diseased to any extent, and should there be actual menstrual life, we may relieve the adhesions, and, perhaps, remove the more diseased of the two ovaries, but not both.

Even a small fragment of ovarian stroma that is left behind may prevent any menstrual or sexual change whatever occurring in the woman. The lesson to be learned is to be as conservative as possible, and never to operate needlessly. J. M. McF.

SERUM DIAGNOSIS OF TYPHOID FEVER.

If future results justify present expectations, clinicians will owe a deep debt of gratitude to bacteriology in furnishing them with a simple and, apparently, certain method of diagnosing typhoid fever. The observations which have led up to this important discovery may be briefly stated as follows:

It was a fundamental principle expressed by Behring that the serum of an animal immunized to a certain disease has a *specific* action, and so can act upon or counteract the effects only of the *specific* organism producing the disease, and is impotent against all others. Pfeiffer, of Berlin, applied this principle in his researches to discover a means of diagnosing between true and false cholera vibrios. He rendered an animal immune against a certain cholera vibrio. He then injected a mixture of the serum obtained from the immunized animal and the suspected cholera organism into another animal, and, if the latter died, then the organism could not be the cholera vibrio, or its effects would have been neutralized by the anti-cholera serum. He next observed that if cholera vibrios were injected into the peritoneal cavity of an immunized guinea-pig, the organisms soon lost their characteristic appearance and became transformed into granular masses. This granular transformation is known as Pfeiffer's phenomenon, and is observed only with the specific organism of the disease. Bordet greatly simplified matters by discovering that the same phenomenon may be observed outside the animal body, when a little of the culture of the cholera vibrios and the anti-cholera serum are mixed on a glass slide and the process watched under the microscope. He found that organisms responded in the same manner to his method as to Pfeiffer's test. This method was afterwards applied to typhoid bacilli, and it was found that, when treated similarly to the cholera vibrios by Bordet's method, the organisms gradually lose their motility and become arranged into clumps. Widal and Sicard pointed out that the serum and blood of immunized animals *when dried* retain the power of producing this effect on the typhoid bacilli. The blood of patients suffering from the disease was also found to have a similar power of arresting the motility and producing aggregations of the typhoid bacilli. The credit for the practical application of these observations is due to a fellow-countryman, Dr. Wyatt Johnston, of Montreal.

He has shown that the fluid obtained by moistening a dried blood-drop, and mixing it with a drop of a bouillon culture of the typhoid bacillus, gives the reaction in a satisfactory manner.

The procedure is very simple and easy of application. A drop of blood from a suspected case is obtained upon a piece of clean paper or in a small tube sealed in an envelope and forwarded for examination. The dried blood-drop at the laboratory is moistened with distilled water and mixed on a cover-glass with a drop of a bouillon culture of the typhoid bacillus, and the mixture then examined under the microscope, as in a hanging-drop culture. If the blood be from a patient with typhoid fever, the bacilli, which are very active at first, after a varying time begin to lose their motility, and become aggregated into clumps, as in Pfeiffer's phenomenon. This reaction has not been obtained in blood from any source other than cases of typhoid fever, and it may be observed with blood *dried* for several days. The exact limits of time in the course of the disease at which the reaction may be obtained are not yet definitely fixed; but it is found comparatively early and lasts for some time after convalescence. Dr. Johnston's remarkably successful results with this method of serum diagnosis in typhoid have been fully confirmed in a series of cases reported to the Toronto Pathological Society, November 28th, 1896, by J. J. Mackenzie. There thus appears little reason to doubt the value of this discovery, important in itself, but more important in the field it appears to open up for future discoveries of methods for the bacteriological diagnosis of infective diseases.

H. B. A.

IMMORALITY IN CANADA.

"We have been distressed and shocked beyond measure to learn that large and increasing numbers of women in Canada are giving themselves up to the vilest form of immoral practices. The report that comes to us, indeed, is such that, were it credible, we should be led to despair of the future of the country, for, compared to Canada, or at least Toronto, Sodom and Gomorrah were as pure as Salvation Army shelters. It appears that cycling, which with us is adding so much to the health and the beauty and the charm of our women, is in Canada, or at least in Toronto, merely a means of gratifying unholy and bestial desire. We hesitate to believe such a report; but we have it on the authority of the editor of the *Dominion Medical Monthly*, and he is on the spot and speaks as one with absolute knowledge of the facts.

"After referring to the advantages claimed for the bicycle, which he refutes by the statement that the average woman gets about all the exercise she wants in looking after her home, our esteemed contemporary says that 'the consensus of opinion is increasing overwhelmingly day by day that bicycle riding produces in the female a distinct orgasm, . . . and even if an orgasm is not produced, the continued erethism is decidedly more injurious, and tends to the production of nervous diseases and the general breaking down of the system. The only contention that can be made is that the orgasm or erethism is not produced. This we

know to be absolutely untrue.' The writer adds more of the same kind, and pictures the mothers, wives and daughters of his neighbors as scorching through the country, stooping low over the handle-bars, and 'subjected to continued erethism as well as occasional orgasm.'

"There is but one of two conclusions to be drawn from this statement. Either the wheelwomen of Toronto are the vilest of their sex, or they are the victims of a contemptible slander. Unless our contemporary has a mass of facts sufficient to establish beyond doubt the sweeping generalization contained in the article from which we have quoted, he has smirched the fair name of his countrywomen in a reckless fashion that calls for the strongest condemnation. The question of the healthfulness of cycling, for men as well as for women, is one that still admits of discussion; but the man who can assert, or even suggest, that the thousands, perhaps millions, of women throughout the world who ride the wheel are giving themselves over to self-abuse, puts himself beyond the reach of argument."

[The above is a copy of an editorial in *The Medical Record*, one of the leading medical journals of the world. To say that the writer in the *Dominion Medical Monthly*, which we blush to say is a Canadian journal (sic), is talking the foulest slander of our women is mild. Could it be sure *who* wrote it, even devils might pity him. Was he disappointed in getting an *ad.* from some bicycle firm?—ED.]

DIPHTHERIA ANTITOXIN.—In arriving at the value of antitoxin in the treatment of diphtheria, it has become manifest that the cases which do not respond to the treatment satisfactorily are those in which there is a mixed infection; in complicated or septic diphtheria the serum has in a measure failed. The following communication of Dr. Roux to the Medical Congress of Buda-Pesth illustrates this:

"The diphtheria associated with or complicated by the presence of other bacilli, *especially the streptococci*, are among the most severe to be seen. Most frequently the disease involves the lungs, which, at autopsy, show foci of broncho-pneumonia, wherein are found the diphtheria bacilli and the streptococci.

"The association of these two microbes produces in rabbits a diphtheria running a rapid course, as seen in very young children. The anatomo-pathological lesions are the same. In both cases there is broncho-pneumonia with abundant bronchial secretion.

"*In these cases of associated diphtheria the serum but rarely cures.* This is not because there is a formation of larger amounts of diphtheria toxins, or because the antitoxic actions are hindered, but because the cells stricken by poison of the streptococci no longer feel the stimulation of the antitoxin."

Dr. Roux further quotes his experience with various cases of diphtheria treated with serum at the Hospital des Enfants of Paris. He found that while in pure diphtheretic anginas (unmixed infection) the mortality was seven and a half per cent., it amounted to 34 and a half per cent. in children where the diphtheria bacillus was associated with streptococci. When diphtheria had invaded the larynx, and tracheotomy had been re-

sorted to, and when the diphtheria bacillus was not associated with streptococci, under the influence of the treatment, the mortality was reduced from 67 to 30 per cent., but in the diphtheretic laryngeal cases *in which the two bacteria were associated* the death-rate was 63 per cent., notwithstanding the average injection of antitoxin during the treatment amounted to 60 oom.

European scientists have experimented in the direction of preparing a serum having antitoxic properties against both the Loeffler bacillus and the streptococcus, by immunizing the same animal against both poisons. The Biological and Vaccinal Department of the New York Pasteur Institute, following Marmorek's method, and recognizing the importance of reaching practical results, has succeeded in producing a serum which is at the same time antitoxic against diphtheria and streptococcus infection immunizing diphtheria antitoxin horses against the streptococci virus. A period of one year is necessary to immunize a horse against streptococcus, an immunizing power of about 1:30,000 being reached.

THE AFTER-TREATMENT OF CELIOTOMY.—Reichel *Archiv. fur klinische Chirurgie; Univ. Med. Mag.*) considers the question as to whether it is advisable after the operation of celiotomy to stimulate or depress peristalsis, and, further, what influence treatment has upon intestinal paresis or ileus. He believes that, regardless of the fact that the operation may be aseptic, there may be a migration of bacteria, that these bacteria may be distributed over the entire peritoneum, and may possibly be quickly absorbed and destroyed, but that, on the other hand, diffuse or circumscribed purilent peritonitis may result. Also, that if this purulent peritonitis is isolated the prognosis is always better. Granted that this is true, he concludes that in cases of intestinal resection, and those celiotomies in which a portion of infected material is allowed to remain in the abdominal cavity, that the arrest of peristalsis is not advisable; that the administration of opium does harm. He advises that from the day of operation peristalsis should be slightly stimulated by the administration of slight doses of saline water, and the bowels should be opened on the second or third day. Should the symptoms of subacute intestinal paresis or ileus appear, probably due to intestinal adhesions, no food and only a small amount of water should be given; also, that the stomach should be repeatedly washed out and opium given in suppository. Saline cathartics are now contra-indicated. If the patient's conditiou improves, an enema of water containing glycerine should be administered. If, after twenty-four hours, or the latest forty-eight hours, the patient's condition has not improved, the abdomen should be re-opened. Where the trouble is thought to be due to mechanical occlusion of the intestine, as where there is advanced peritonitis, purgation is strongly contra-indicated. Reichel believes that simple mechanical occlusion is rare; that the greatest number of cases are due to paresis of the intestinal muscle wall, where the intestine is bent upon itself or looped; that this paresis and the stenosis is increased, and the bowel distended, when artificial peristalsis is induced. Therefore this condition is best treated by keeping the intestinal tract at rest. The abdomen should be re-opened where there is sepsis, and where the symptoms point towards mechanical obstruction.

ARSENIC IN GASTRALGIA.—Sawyer (*Lancet*) says, "Further observation in practice has confirmed my favorable opinion of the curative efficacy of arsenic in the various painful neuroses included under the name gastralgia. I have already laid before the profession my earlier experience in this subject. Romberg's well-known description of gastralgia is classical. He distinguished two forms of the malady—gastrodynia neuralgica, which he held to be hyperesthesia of the gastric branches of the pneumogastric nerve, and neuralgia celiaca, which he attributed to hyperesthesia of the solar plexus. Clinical experience confirms the views of Niemeyer and of Henoch, that this distinction is difficult and of doubtful utility in practice. Gastralgic affections, severe and slight, are not rare in hospital practice, and frequent among private patients, especially among those of nervous temperament. I need scarcely observe that for obvious reasons the diagnosis of gastralgia is one which should neither be lightly made nor negligently maintained. But pain arising in the stomach when the organ is empty, and relieved by the ingestion of food, is almost diagnostic, as the late Dr. Wilson Fox taught, of its nervous nature and origin. With due regard to the casual concomitants and antecedents of gastralgia, arsenic cures the disease. It is best to give the drug in pilular form. I exhibit a twenty-fourth of a grain of arsenious acid made into a pill, with two or three grains of some tonic vegetable extract, such as gentian, three times daily, half-way between meals. Scarcely any other medicinal treatment is needed in cases of moderate severity, and the use of the remedy should be continued for some weeks. In severer cases I use counter-irritation to the epigastrium of duly proportional activity. I have usually found a full and varied dietary suit gastralgic patients far better than a restricted 'dyspeptic' regimen. It is in such cases that Trosseau's maxim is true—that we should know what a patient does eat before we advise him upon what he may feed."

THORACOPLASTY IN AMERICA (SCHEDE'S) AND VISCERAL PLEURECTOMY, WITH REPORT OF CASES.—Thoracoplasty as first done by Schede is an heroic measure for the otherwise hopeless cases of chronic empyema and consists of the removal of the chest-wall. Dr. Ferguson described his method of operating and stated that some cases are not cured in spite of any operation for their relief. In his opinion, the statement made by Schede that amyloid degeneration and tuberculosis do not contra-indicate this operation is only true within certain limits. The author first performed Schede's operation in July, '95, in which case a sinus resulted. Healing by first intention at the sides was secured and the patient was able to be out in a very short space of time. In spite of careful treatment for five months after the operation, owing to the fact that a long central sinus had not closed, the operation of visceral pleurectomy was performed, which resulted in the patient's complete restoration to health. This operation has been performed by one other man in America, Dr. George R. Fowler, who was the first to perform it in October, 1893. Visceral pleurectomy has only been done five times altogether, including Dr. Ferguson's case.

CAMPHOR IN STRYCHNIA POISONING.—Dr. A. K. P. Meserve reports, *Jour. Med. and Science*, the case of a child, 2½ years old, who was supposed to have taken $\frac{1}{60}$ grain of strychnia. Characteristic symptoms of the poisonous action of the drug soon appeared. In the absence of a physician, ten drops of tincture of camphor were given. The effect was almost instantaneous. The spasms relaxed, and when a physician arrived, nearly an hour later, the danger seemed to be over. Tannin and a large dose of camphor, gtt. xx, were administered, as a precautionary measure. The next day the child had fully recovered.

SALOL IN DIARRHŒA.—Fussel (*Therapeutic Gazette*) confirms the statements which he made upon the value of salol in diarrhœa, and which he published in the above journal, in 1892. The conclusions arrived at in the original paper were:

(1) Opium is rarely necessary where salol is used.
(2) Salol controls the abdominal pain equally as well as opium.
(3) It is perfectly safe having no bad after-effects.
(4) It is especially useful in the treatment of the diarrhœa of children.
(5) It is of no value in dysentery.
(6) It constantly corrects the fetor of the stools.

The following mixture is suggested as the best method of administering the drug: Salol, ℥i; bismuth subnitrate, ℥ii; misturæ cretæ, q.s. ad f℥iij.—M. Sig.—Two drachms every one or two hours until relieved.

To the above conclusions. the writer adds that in the diarrhœa of typhoid fever salol acts almost as a specific, and that it has also a favorable action on the annoying diarrhœa which accompanies tuberculosis, either with or without a tuberculosis enteritis. The sixth conclusion of the original paper is corrected. "The mixture will certainly *not* control the attacks of dysentery," says the author, "but the fetor of the stool and the general abdominal distress are greatly relieved by its administration, and I always use it in my cases in powder form, with bismuth in large doses."

No untoward effects were ever encountered, and although the urine was repeatedly examined, it did not contain casts or albumin in a single instance.

NEW TREATMENT FOR TAPEWORM.—Dr. Newington (*Med. Times and Hosp. Gaz.*) gave the following for another disorder and found that the patient passed a dead tapeworm eleven feet long, of whose presence he, as well as the physician, was ignorant:

℞ Potass. hydriodat,.....gr. xxxvi;
Iodi,.....gr. xij;
Aquæ.....℥i.

Ten drops in water three times daily.

The same combination was then tried in three cases in which the para site was known to be present, and in each case it acted equally well. In still another case, which had resisted all previous attempts, the patient passed a mass of dead tapeworm and for a year had no return.

Book Reviews.

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TWO INTERESTING CASES OF ECTOPIC GESTATION.

BY DR. NORMAN ALLEN, M.R.C.S. ENG., TORONTO.

FIRST CASE.

On March 25th, 1896, I was called to see a lady with the following history:—Age 24; married five years; one child four years; had never been pregnant since the birth of this child; menstrual functions since confinement regular, but profuse, lasting usually a week or more. During the past six weeks had suffered from constant nausea and almost entire inability to retain food; had been treated for this condition without any improvement resulting; breasts presented no characteristic symptoms of pregnancy; she was weak and greatly emaciated. During the last two weeks she had suffered from gushes of blood, lasting about an hour and then ceasing. For five or six weeks she had suffered sharp, lancinating pains referred to the left iliac region, and constant distention of the abdomen. Twelve hours before I saw her, after a paroxysm of pain, she felt something suddenly give in the iliac region; since which the pain had ceased. Bimanual examination disclosed the uterus enlarged and os patulos, and a semi-solid mass about the size of a child's head occupying the pelvis high up and to the left. The patient was suffering from considerable collapse, evidently due to loss of blood. I diagnosed pelvic hæmatocele, probably resulting from a ruptured tubal pregnancy, and advised immediate operation, to which neither my patient nor her friends would consent, though the almost inevitable result of non-interference was pointed out to them. As predicted, general septic peritonitis ensued. The pulse became small and wiry, running from 100 to 140; temperature

usually 101°, then suddenly darting up to 106°; constant vomiting of dark, greenish fluid; was restless and apprehensive; abdomen distended and tympanitic. May 10th, drowsy and weak; mind wandering; sleepy; pulse 170; temperature 102⅗°, when death ensued. Post-mortem examination made in the presence of several physicians revealed pus in large quantities in the peritoneal cavity; the pelvic organs had undergone almost complete disorganization, and could only with difficulty be separated or recognized. Some thickened, disintegrating masses of decidual tissue were found, corresponding to the left broad ligament. No disease of other organs was found. All present concurred in the opinion that a correct diagnosis had been made, and that rupture of a tubal pregnancy into the peritoneum had occurred about the 11th week.

Left Tubal Pregnancy, rear view, ovary and placenta at left, foetus and sac at right, about 2½ mos. Aug 1, '96.

SECOND CASE.

On July 26th, accompanied by Dr. D. W. McPherson, I was called to see Mrs. S., aged 31; had borne two children; six years since date of last confinement. Since that time, she stated, she had never been well. She suffered from menorrhagia, always lasting a week or more, and continued leucorrheal discharge, backache, etc. Last unwell June 7th; discharge slight, lasting only three days. After this menstrual period suffered acute pains, accompanied by nausea and faintness, referred to the left ovarian region. These pains continued to increase in severity, as well as the nausea, which gave place to occasional severe paroxysms of vomiting, succeeded by periods of relief, which might last for several hours or days. Breasts sore and enlarged. Early in July noticed a

lump in the left iliac region, rapidly growing very painful to the touch, making her scream out at times. Suffered occasional discharges of blood in small quantities; frequent desire to micturate. Towards the middle of July, when in her physician's office, sharp pain, accompanied by a uterine hæmorrhage, occurred, followed by great faintness and vomiting. She was removed to her home in a carriage, where she was seen by two physicians, who suspected miscarriage. Two weeks later, when seen by me, though weak and suffering some pain, she was able to walk about without much difficulty. On digital examination a mass could be made out, extending from the uterine attachment of the broad ligament well up into the left iliac region. It was sensitive to the touch, and large, distinct pulsating vessels could be felt. The uterus was enlarged and high up to

Left Tubal Pregnancy, rear view, sac opened, foetus about 2½ mos. seen at extreme right, about size of a large bean. Aug. 1, '96.

the right. I again suspected extra-uterine gestation, and, after consultation with Dr. McPherson, recommended immediate removal to the hospital and operation. This was consented to.

On August 1st, assisted by Dr. McPherson, I opened the abdomen, which disclosed a mass occupying the left side of the pelvis, involving the left broad ligament, and adherent to the mesentery and some coils of the small intestine. A considerable quantity of dark clot was removed, evidently a hæmatocele, the result of rupture of the Fallopian tube, which, I infer, occurred at the time when she was suddenly taken ill in her physician's office. After separating the adherent intestine and other adhesions, the tumor was removed without difficulty, though considerable hæmorrhage and oozing occurred. The pelvis was well washed out with hot boracic solution and closed. During the first 48 hours following

operation the patient suffered the usual nausea, and complained of great pain in the right side, opposite the side from which the mass was removed. August 3rd, bowels moved freely three times, as a result of calomel and saline. Pulse usually 70° to 80°; temperature never exceeding 100°. On the 9th the stitches were removed, and the wound found perfectly healed. On the 10th the patient was on full diet, and on the 18th day was able to be out of bed. She made an uninterruptedly good recovery.

Illustration No. 1 shows the tube, ovary and ovum, as removed, being the left tube, as seen from behind; the ovary is seen to the left of the ovum. The rest of the illustration is composed of the placenta attached to the tube, being apparently on the upper and posterior part of it.

Illustration No. 2. shows ovum opened, and on examination proved to be about the 10th week of development, the fœtus being seen at the extreme right. Patient has steadily improved and now enjoys good health.

The history of these two cases leads me to believe that early surgical measures are the safest treatment whenever ectopic gestation is suspected. Had electrolysis been used in the second case it could hardly have prevented peritoneal sepsis resulting, when there was such a large amount of blood-clot found; and had operation been agreed to in the first case I have no doubt that the patient would have recovered. Both were suffering from cervical laceration and endometritis. These cases, in my opinion, add additional evidence to the view that resulting stenosis of the uterine opening of the Fallopian tube due to endometritis is the most probable explanation of ectopic gestation, especially when the rapid growth of the ovum during the first few days of pregnancy is considered, and, to my mind, constitutes an additional indication for the early restoration of lacerations of the cervix uteri.

ORAL AND NASAL BREATHING, WITH EXHIBITION OF PATIENTS.*

BY PRICE-BROWN, M.D., TORONTO.

That nasal respiration is the only normal method of breathing is exemplified by observation of the habits of the ordinary animals around us. When in a state of rest, and not unduly excited by fatigue or heat, they invariably breathe through their noses. Waking or sleeping their mouths are shut. Observers tell us that this applies to all the races of mammalia. Nowhere do we find them, provided that they are in a healthy condition, addicted to the habit of mouth-breathing.

The same rule applies very largely to the aborigines of the human race. The primal natives, whether in Africa, America or Australia are all nose breathers. They follow out the bidding of the physiological law that nasal breathing is the only natural one.

Catlin tells us that the Indians of North America, among whom he travelled, all had patent noses. The women of the different tribes,

* Read before the Toronto Medical Society, December, 1896.

according to his idea, were more familiar with nature's law than their civilized sisters, inasmuch as they carefully closed the mouths of their children, and forced them to breathe through their noses. The probability, however, is that nasal breathing was so universal among them, that the keenly observant squaws noticed any exception to the general rule, and hastened to correct it.

It seems like a strange thing that the only mouth-breathers among all the mammalia are the civilized races of men, and that the higher the type of cultured nationality, the more frequently does the law of nasal respiration seem to be broken. I do not mean to say that among civilized whites mouth-breathing is the rule; but that a much larger proportion of the Circassian race are addicted to this method of respiration, than can be said of the other branches of the human family.

There are many factors required to produce the sum total of causes which lead to mouth-breathing, but prominent above all others in adult life is intra-nasal deformity. Why Europeans and their descendants in America should monopolize so large a share of these obstructive lesions, it is difficult to realize. Still, extensive examinations have proved it to be a fact; and one rhinologist was so struck with it, that he facetiously remarked to his confreres:—"We might look forward to the day when noses, having ceased to perform their function, would disappear like shadows and finally pass away."

In the museum of the Royal College of Surgeons there are 2,152 skulls. It is reported on reliable authority that of these 1,657, or 77 per cent, have deflections or irregularities of the septum or turbinateds; and out of 2,000 others examined in America and on the continent of Europe, the same percentage of abnormalities in the osseous framework has been repeated.

On the other hand, Sir Morrell Mackenzie and Zuckerkandl report that after careful examination of the crania of a large number of the aborigines of America, Africa and Australia, only 20 per cent. of the nasal cavities were found to possess any abnormality. Allen examined the skulls of 93 negroes and found deflections and irregularities in only 21 per cent. These statistics all refer to the skulls of adults.

Then, in the living state, out of 1,050 adult patients examined indiscriminately at the North West London Hospital by Collier, only 110, or about 10 per cent., had normal noses. In children up to the ages of 8 or 10 years, he usually found the septa and turbinateds normal; and obstructed breathing, which occurred frequently, was almost always due to lesions other than bony.

These remarks of Collier's are borne out by the experience of most observers. The septum during infancy is straight and the turbinateds are neither deformed nor hypertrophied. The nasal stenosis, from which children so frequently suffer, is almost invariably due to the presence of adenoids in the pharyngeal vault, or hypertrophy of the faucial tonsils; and when the exception does occur, it may usually be traced to traumatism, or hereditary tendency.

These data seem to bear out the following conclusions:—

1st. Bony irregularities of the nasal fossæ are seldom present in child-

ren before the age of ten years. 2nd. Bony irregularities of the nasal fossæ become frequent after childhood, 70 to 80 per cent. of civilized adults being affected by them. 3rd. Bony irregularities of the nasal fossæ are not frequent among uncivilized races, only about 20 per cent. being affected by them.

Of course irregularities of the intra-nasal bones alone, would not produce nasal stenosis; but these bones are the foundations upon which the tissues rest, and it is through the latter in great measure that the irregularities are transmitted.

The question of the causes producing these intra-nasal lesions is a vexed one; but of the many observers who have carefully investigated the subject, Mayo Collier in his painstaking researches has probably come the nearest to the truth. He claims that they are largely due to the effects of atmospheric pressure, badly equalized, within the nasal cavities.

Collier's theory was largely founded upon experiments upon young animals previously made by Zeim, who proved that any obstruction of the nose produced serious consequences in the development of the skull. In several instances, he completely blocked one nostril of a young animal for a long time, effectually stoppingrespiration on that side. The result in each case was arrest of development on that side, falling in of the septum toward the same side, deviation of the intermaxillary and palate and frontal bones toward that side, producing a general collapse of the walls; while the unobstructed fossæ would be larger than natural, and more fully developed.

The reason of this is the rarifaction of the air in the closed nostril, caused by the rush of the inspired air through the open one, with the consequent air pressure on all sides of the cavity.

It is a well-known fact that the septum, which should be a perpendicular plane, is more frequently affected with irregularities than any other intra-nasal structure. It averages in the adult between 2½ and 3 inches in length and height, making a superficies in each nasal cavity of from 6 to 9 square inches, and during the early years of life is both thin and flexible.

Collier illustrates it in this way: Take a bent piece of glass tube, with mercury in the bend, connect this with a fairly thick piece of rubber tubing, and insert the free end of the rubber into one nostril. Then inspire air through the open nostril and at once the mercury will fall in one limb of the tube about an inch and rise to the same height in the other. This proves that the air inspired through one nasal cavity exhausts the air in the other, to the extent-pressure of about an inch of mercury. Now the weight of the atmosphere at sea level equals about 29 inches of mercury, and has a pressure of 15 lbs. to the square inch. An inch of mercury, therefore, will equal a pressure of half-a-pound to the square inch; and as the septum on the closed side has an area of from 6 to 9 square inches. this would make the pressure on the septum of the closed cavity equal to 3 or 4 lbs. on each inspiration. Of course this would be in a case of complete unilateral stenosis In the majority of cases the stenosis is only partial, but granting that the rarifaction was only one-half, or even one-tenth, we can easily see how great an injury the 1,000 inspirations per hour would have on the affected side.

During sleep more harm is done than while awake, owing to the prolonged period during which the sleeper occupies the one position. This applies particularly to persons who habitually sleep on one side, owing to the effect which gravitation always has upon the tissues of the lower nasal fossa.

Collier very reasonably argues that when one-sided nasal obstruction occurs from any cause, this pressure from rarifaction not only acts upon the septum, but also upon the turbinateds, arch of the palate and other structures, producing the general collapse of the fossa, similar to the condition already described by Zeim in his account of experiments on animals.

Of course, before the effects of rarifaction could occur, there must be, from some cause or other, partial closure of one nasal cavity; then in due time the results indicated are likely to follow. In children this obstruction sometimes arises from neglected colds, and particularly from the habit of allowing the child to sleep too much on one side. It should be remembered, however, that in children the obstruction is rarely unilateral, as it is caused in the majority of instances by the pressure of adenoids, affecting equally the respiration through both posterior choanæ.

Many observers believe that a tendency to the formation of septal deviations is hereditary, while others think that this tendency rarely or ever occurs. From my own personal observations I believe that heredity is a serious factor in the history of obstructive lesions of the nose; just as it is a potent element in producing types of feature and of form. I have known many instances where different members of the same family have been affected by similar nasal lesions, particularly in regard to deviations of the septum. One of my patients in the city, a boy of nine years, has curve of the septum to the left. There is no indication whatever of traumatic injury. His father likewise had curve to the left, with spur enchondroma so large as to produce complete stenosis on that side, with deafness in the corresponding ear. On enquiry about the grandfather the only information I could get was that he was a snuff-taker, and that he always took it through the one side. The conclusion is obvious. No doubt he transmitted the hereditary tendency to his son and grandson

Very many cases of nasal stenosis arise from traumatism. Bosworth believes that the majority do, particularly when occurring in early life—the septum at that period being more easily bent or broken from its normal position.

Then we have obstructions caused by the presence of hypertrophies of the turbinateds, the existence of polypi, new growths, etc., and the occurrence of frequent colds. From whatever cause the difficulty in respiration through one side may occur, it is always likely to be magnified by the addition of Collier's rarifaction.

The opposite effects of nasal and mouth-breathing upon the general health has been very carefully observed by medical men during recent years, with the result that it is now acknowledged by all that habitual respiration is physiological, while habitual oral respiration is pathological.

In the former the air is cleased from impurities, heated and saturated

during its passage through the nasal fossæ, being thus specially prepared for admittance to the air-cells by the time it reaches the throat. In the latter the air is neither cleansed, heated nor saturated when it enters the throat; and, when foul, it loads the pharynx and larynx with impurities, while it absorbs any little moisture present on the mucus membrane, leaving it in an irritable and parched condition.

In respiration there is very little mutual accommodation between mouth and nose. As a rule it is either all one or all the other. If the nasal fossæ are sufficiently patulous to allow a fair share of air to pass in and out, the breathing will be nasal; but let the stenosis be marked enough to render the nasal breathing labored, the mouth will immediately drop open and undertake the whole duty, no matter how much the throat or bronchial tubes may suffer as a result. This is invariably the case during sleep, and it is during the somnolent period that the most damage is done.

The effects of mouth-breathing are very numerous. Scheck says that, while injurious to all, it is far more serious and dangerous to the young than the middle-aged or old. Besides the cooling and drying effects upon the mouth and throat, it produces diminished sensibility to touch and taste, and affords a greater tendency to catarrhal conditions of the pharynx, larynx, trachea and bronchial tubes. Children who are sickly and cross all the year round, with constant catarrhal symptoms, become better natured and healthier as soon as the stenosis is removed.

Mouth-breathing in young children has a marked effect upon facial expression, and also upon the development of the bones and muscles of the face. By it the features acquire that indolent, sleepy, gaping expression so often noticed. To use Scheck's words: "The muscles of mastication become stretched and atrophied, while the retractors of the lower jaw become hypertrophied, and a part of the facial muscles enormously relaxed; another part, on the other hand, becomes permanently overstrained. The unequal tension of the facial muscles has extremely frequently, as a result, disturbances of articulation and serious faults of speech, to wit, oral stuttering."

Aprosexia is one of the most serious results of mouth-breathing. Guye gives this term to the lack of power of concentration, together with inability to remember what has already been acquired. This is supposed to arise from brain exhaustion, due to defective elimination of metabolic products.

Enuresis nocturna has been found to arise from the same cause. Major, of Montreal, was the first to draw attention to this and point out its frequency. He claims that it is due to the retention in the blood of carbon dioxide, arising from defective respiration during sleep. Zeim and Groubeck both support this view, while all claim that with the removal of the naso-pharyngeal obstruction the enuresis ceases.

Aural diseases frequently owe their origin entirely to naso-pharyngeal obstruction; and these cases, particularly in young subjects, are frequently followed by deafness. Milligan and McNaughton Jones both lay great stress upon their experience in this matter; and the latter, after giving a long category of diseases which might be enumerated as

arising from defective nasal respiration, naively used the familiar expression, that he did not know but every disease of the body except housemaid's knee had its origin in an obstructed nose.

Be that as it may, it can at least be affirmed that nasal respiration is too essential a factor in the maintenance of good health to allow the impairment of it to be ignored. Its effects extend beyond the face, and in some instances even seriously influence thoracic development, the result being very noticeable. From this two peculiar forms of chest irregularity can be traced. These are flat chest and pigeon chest. Both are said to be the result of rachitis, added to mouth-breathing. I do not think, however, that rachitis is at all an essential factor in producing them. If present it may aid in developing deformity, but in the cases I have to show to-night it certainly did not exist.

Through the kindness of two of my patients I am able to show you to-night one example of each kind of unusual formation, both due to obstructed nasal breathing during all the earlier years of life.

The 1st is that of a young lady, well developed in every way but that of the upper thorax, which is markedly pigeon-chested in shape. She came to me over a year ago suffering from nasal stenosis, which she had been troubled with all her life. This arose from the presence of adenoids, and hypertrophy of the faucial tonsils. There was also nasal obstruction from spurs. These I removed with satisfactory results. The chest malformation, however, has remained permanent. You will notice in her case the prominence of the sternum and front ends of the ribs, with the lateral flattening of the latter toward the axillae. You may notice also the present perfect freedom of nasal breathing.

The 2nd is the case of a young gentleman, aged 15, height 5 ft. 11 inches, weight 140 lbs. He is now like a healthy, overgrown youth. When he came to me first, 2½ years ago, he was a thin and delicate boy, 5 feet high and weighing 90 lbs. He had almost complete nasal stenosis, owing to enlarged turbinateds, adenoids, and hypertrophic tonsils. His chest was very flat, and in one place, which you will notice, even concave on its anterior surface. The complete removal of these impediments to normal respiration have had a good result, as you will see, upon his physical system. He has developed in every way, with the single exception of the thoracic wall, which retains its flattened and concave outline.

The question may be asked, the cause being the same in each of these cases, why the result should be so diverse. The reply is simply that the deformity would be in the direction of the least resistance. In nasopharyngeal stenosis inspiration is always more labored than expiration, necessitating the powerful action of the diaphragm to accomplish the inward breathing.

The young lady orginally had a round, full chest, and the sternum standing prominently forward would not yield so readily as the ribs to the inner pressure, produced by every breath drawn, and this repeated with every breath during all her young life could easily mould the flexible ribs into their present irredeemable position.

In the youth the opposite was the case. He comes of a flat-chested family. The short sternum, lying on the same plane as the anterior ends

of the ribs, could offer no resistance to the repeated traction of the diaphragm, and the centre being without the arch support, which saved the sternum in the 1st case, would yield to the repeated acts of rarifaction. It is to this I attribute the concavity of the chest wall, produced no doubt on the same principle that Zeim collapsed the nasal fossæ of his animals, and Collier twisted and curved the septa of his many patients!!

"GONOCOCCUS" PYEMIA.—Under this title, a paper by Dr. E. Finger appeared in the *Wiener Wochenschrift*, 1896. It is generally acknowledged that many complications of gonorrhea, such as arthritis, tenosynovitis, bursitis, periostitis, endocarditis, and pleuritis, are dependent upon the presence of gonococci, the organisms being carried from the point of local infection to distant parts. Yet it is not generally accepted as proved that the gonococcus rarely excites superficial inflammation of the mucous membranes, the micro-organism acting far more frequently as an exciter of metastatic inflammation and suppuration in company with pyogenic cocci, streptococci, and staphylococci. Nevertheless, Shon and Schlaginhaufer have shown that the morbid processes produced by the gonococcus are not at all dissimilar in some respects to those caused by the pus-cocci. The behavior of the gonococci in and towards the affected tissues is, however, somewhat different from that of the pus-cocci, in that the latter rapidly permeate the tissues and cause rapid breaking down of the same, whilst the gonococcus is least active and takes only paths of least resistance through the fissures and lacunæ of the epithelium and connective tissue. Again, the reaction of the tissues is somewhat different. The inflammation caused by the gonococcus is entirely purulent; the formation of granulation tissue is early and abundant. All facts go to show that the gonorrheic process tends to the formation of connective tissue and scars,—in the urethra as stricture, in the prostate as destruction of the gland, in the suprarenals as thickening of the organs, and in the joints as ankylosis. Finally, the gonococcus is destroyed when exposed to a temperature of 103° or 104° F. for several hours, whilst the pus-cocci are far less susceptible to such a temperature. From these considerations it follows, as has been already known clinically, that the gonococcus is less energetic in its action and is more easily destroyed than the pus-cocci, and that the lesions produced by the former tend to run towards recovery more readily than those produced by the latter.—*Univ. Med. Mag.*

ENURESIS NOCTURNA.—Dr. A. S. Wilson, Buffalo, N.Y., writing, says: "This was a case of a girl nineteen years of age suffering from irritable bladder, and who had wet the bed nightly from childhood. She was compelled to avoid company and the usual social life, on account of frequent micturition. One bottle of Sanmetto overcame the irritation to such a degree that for the first time in fifteen years she passed a night without wetting the bed. She is still using the remedy in hopes of complete recovery."

SURGERY.

IN CHARGE OF

GEO. A. BINGHAM, M.B.,

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FISSURE OF THE ANUS.

Dr. Dundore *(Illinois Medical Journal)* writes:

Fully two decades have passed since diseases of the rectum first received recognition and proper treatment at the hands of the regular profession; but although, at the present time, surgeons acknowledge the importance of these cases, and their demand for active and more modern treatment, still the general practitioner, for some undeterminable reason, seems loath to give them the attention which their importance demands. That they do need more careful attention and treatment is amply shown by the intense suffering and misery which they cause to so large a proportion of humanity. It is plainly evident, to every conscientious physician, how futile it is to expect beneficial results from the treatment of any case whatever, without first thoroughly examining the patient, in order to make a correct diagnosis, and yet, in dealing with a case of rectal disease, many physicians simply listen to a description of symptoms by the patient, and as a result are, in the majority of cases, entirely in the dark as to diagnosis; the symptoms enumerated being common to fissure, fistula, hemmorrhoids and proctitis.

Again, in many instances in which inspection of the parts is resorted to, it is quite superficial and hurried; and, the malady appearing to be a trifling one, the physician merely prescribes some routine formula; and with what result? The disease is not cured, perhaps not even ameliorated, and dissatisfaction is experienced by both the patient and the medical attendant.

If there is one rectal disease that is slighted more than another it is fissure of the anus, and it is this subject that I wish particularly to refer to; it causes an untold amount of suffering in many cases, is often treated with little or no success, and yet there is no affection of the anus more amenable to rational treatment. In brief, the anatomy of the parts involved is as follows: The anal canal averages about an inch in length, the direction of its long axis being downward and backward; the upper boundary of the canal is formed by the white line of Hilton, above which the mucous membrane of the rectum commences, and is here thrown into vertical folds called the columns of Morgagni; the upper border of the anus is surrounded by the anal valves, which have no fixed size or number and are frequently absent.

Dr. Charles B. Ball, of Dublin, has examined a large number of rectums with reference to these valves, and finds them present, so as to be easily detected, in ninety per cent. of normal rectums, varying in size from having a free margin of one-fourth of an inch to such small dimensions that they cannot be detected; they are distributed very irregularly around the anus, and have no fixed relation to the columns of Morgagni; their extreme irregularity suggests that they are remnants of a developmental process, rather than structures of definite functional significance.

Dr. Ball, to whom belongs the credit of having first lucidly described the cause of fissure, says: *"Many authors have noted that painful fissures apparently commenced in the rectal sinuses, and also that at the lower portion of it there was what is called a small external pile, and have stated that for the cure to be complete this pile must be removed in addition to the usual operation for the cure of the fissure.

"These authors consider that the first cause is the longitudinal split from over-distention during the passage of a hard motion, or an abrasion from some particularly hard fragment of feces, and that the presence of a pile or little cutaneous tag at its lower portion is only an incidental complication. I believe, in a larger number of cases, what happens is as follows: During the passage of a motion one of these little valves is caught by some projection in the fecal mass and its lateral attachments torn; at each subsequent motion the little sore thus made is reopened and possibly extended; the repeated interference with the attempts at healing ends in the production of an ulcer, and the torn-down valve becomes swollen and edematous, constituting the so-called pile, or, as it is called, the 'sentinel' pile of the fissure.

"Most of us have experienced the little bits of skin torn down at the sides of the finger-nails, popularly called 'torments,' and how painful they are when dragged upon. Now, the torn-down anal valve resembles closely this condition of the finger, except that in the former it is situated at the acutely sensitive anal margin, and subjected to the periodic strain of a passing motion; it is, therefore, not to be wondered at that the pain should be so excessive as to seriously affect the general health, and render life miserable."

There are, of course, many cases in which a small ulcer is situated wholly on the mucous membrane, and also superficial marginal cracks due to eczema or constipation; but these are *not* true fissures in any sense of the word: they are trivial ulcerations which reply very readily to simple treatment, and in many cases get well spontaneously.

The chief symptom of fissure is excruciating pain, commencing during a motion of the bowels and continuing sometimes for hours or even a day without cessation, causing profuse perspiration, a weak pulse, and collapse. Patients very often have such dread of having the bowels moved that defecation is postponed as long as possible, and as a consequence the suffering is much more acute, due to the hardened feces. Retention of urine occurs very frequently in men, and serious disorders of menstruation in women; finally the general health gives way, and

* *Mathew's Medical Quarterly*, Vol. 1, No. 2.

dyspepsia, anemia, and an almost continuous pain in the back and loins adds to the patient's misery.

The diagnosis seldom presents any difficulty; no other rectal disease causes such excruciating pain; neuralgia of the rectum might at first be mistaken for it, but the pain is of a different character.

A blood stain may be very often noticed in the stools; if there is any cause for doubt, it will promptly be dispelled upon inspection of the parts; the anus being contracted and the sphincter exceedingly hard and tense; examination by the finger being entirely too painful, the patient should be etherized and the anal canal dilated, when the characteristic small ulcer with the accompanying torn-down valve, pile-like in appearance, become plainly visible. The methods of treatment which have for many years given the best results are forcible dilatation of the anus and partial or total division of the sphincter; the first named, dilatation, has proved successful in many cases, not merely because it paralyzed the anal muscle and gave the parts the required rest to facilitate healing, but because the distention has torn completely through the torn-down valve and thereby prevented all further tearing and irritation during the subsequent actions of the bowels.

It can be readily understood that spontaneous cure may take place in the same manner, due to overdistention during a difficult passage, the feces tearing completely through this tag of tissue.

Partial or total division of the sphincter, when the incision is carried, not only through the fissure, but also through the so-called pile, acts in the same way by relaxing the sides of the tag and preventing the feces, in future motions of the bowels, from catching in it and reopening the wound.

But numerous cases so treated recurred sooner or later, owing to only partial or incomplete tearing through the tag, and it then became generally understood that in most of these cases there was present, at the base of the fissure, what was supposed to be a complicating pile which it was imperative to remove, at the same time that dilatation or division of the sphincter was practised, to bring about a positive cure; and thus the profession adopts the correct method of treatment without at the time having a proper conception of the cause of the misnamed pile.

With the knowledge of the cause and pathology of fissure which we possess at the present time, it is obvious that the removal of the torn-down valve is all that is necessary to bring about a cure, and that dilatation and division of the sphincter are superfluous measures.

For the past two years I have habitually treated these cases as follows: After having the patient's bowels relieved by an efficient laxative, and an enema when occasion demands, administer ether and dilate the anus with the thumbs sufficiently to obtain a perfect view of the parts; the small ulcer is readily perceived, with the torn-down valve at its base, which is often hypertrophied; catch the tag in a pair of forceps and remove it by means of a V-shaped incision having its base toward the ulcer. This is all that is absolutely necessary; but, as a rule, I scrape the ulcer thoroughly if it appears unhealthy; trim its edges if they are thickened, and dust the wound with iodoform or acetanilid, thus

producing healthy granulations, and thereby accelerating the rapidity of convalescence. It is also wise to examine all the anal valves, and if any project or are of such size that they are likely to be torn down and form other fissures, they should be cut off with the scissors.—*Med. and Surg. Reporter.*

SECONDARY ABDOMINAL SECTION FOR INTERNAL HÆMORRHAGE; RECOVERY*

BY JOHN OSBORNE POLAK, M.D.

Gynecologist to the Eastern District Hospital, Brooklyn.

Successful abdominal section for the arrest of internal hæmorrhage following oöphorectomy is of sufficiently rare occurrence to warrant the report which I am about to make:

Mrs. L. C., aged 23, entered my service December 8, 1895. She had been married two years, but had never been pregnant. Since marriage patient had suffered from severe dysmenorrhea and intermenstrual pain located in the back and right iliac regions. Examination revealed an ovarian cyst of the size of a child's head, which displaced the uterus downward and backward in the pelvis. There were also an enlarged tube and ovary on the left side. December 10, after a preliminary curettage, a section was made in the median line, exposing an unfilled cyst of the right ovary firmly adherent to the vesico-uterine space, with extensive intestinal attachments. The left ovary was found to be as large as an orange, and the tube contained pus. A double salpingo-oöphorectomy was made. Intestinal and parietal adhesions complicated the enucleation of these tumors, and the parietal peritoneum was torn for a distance of some three inches near the bifurcation of the right iliac artery, which rent was closed with a running suture. The pedicles were tied off with large catgut, and the stumps covered in by peritoneum. It should be mentioned that a small quantity of pus escaped into the cul-de-sac while peeling out the left tube. This leakage was removed by sponging, and the abdomen closed with a small drainage wick placed in the lower angle of the wound, the patient still being in the Trendelenberg posture.

The patient had a pulse of 80 when replaced in bed. She continued to do well until 3.30, two and one-half hours after the completion of the operation, when the nurse discovered the dressings to be soaked with blood. Within ten minutes the pulse had risen from 88 to 130. The foot of the bed was elevated, and half a grain of morphia administered. This immediately relieved the patient's anxiety and somewhat improved the character of the pulse. The house surgeon, until my arrival, controlled further hæmorrhage by compression of the abdominal aorta through the parietes. At 3.30 the pulse was imperceptible at the wrist, but counted 160 at the heart. The surface was covered with cold perspiration, the respirations sighing and irregular, the pupils dilated,

* Report Department for Women, Brooklyn Throat Hospital, 1895. Celiotomies, No 18.

and delirium was present. In this condition the patient was placed in the Trendelenberg posture and the abdomen reopened; the whole pelvis was filled with free blood and clots; these were hastily removed, and the cavity sponged dry. The bleeding was seen to come from the left ovarian artery and broad ligament of the same side. The bleeding points were secured, and two quarts of hot saline solution left in the belly. The wound was again closed in the usual manner, and the pelvis drained by small wick in the lower angle of the incision. It was necessary to use a partial narcosis to reopen the wound, thus increasing the shock, though our patient was comatose from acute anemia. She was kept on the operating table in an elevated position for twelve hours, during which time enemata of normal salt solution with stimulants and opium were administered hourly until the vessels began to fill up, when strychnia was used hypodermatically. Her convalescence was prompt and uninterrupted, except for a few superficial abscesses at the site of the hypodermics.

The writer ventures to make this report: (1) That he may call attention to the fact that the abdomen should never be closed with the patient in an inverted position, for after this position has been maintained for any length of time the blood pressure in the pelvis is so lowered that small bleeding points may escape the operator's attention; (2) to call attention to the happy result in this case, from prompt reopening of the belly, and to the rapid reaction from saline infusion, giving the heart fluid to work upon, thus combating the acute anemia.

THE EARLY MANAGEMENT OF CONGENITAL CLUB-FOOT.

In a paper on this subject, Dr. Lewis A. Sayre stated that whether the case be one of varus or valgus, calcaneus or equinus, or plantaris, or any of their various combinations, the same general principles of treatment are applicable, and the time to commence their application is immediately after the birth of the child, or, if not present at the birth, as soon after as the case is seen.

There is a prevalent idea among the profession that the treatment of club-foot must not be commenced "until the child is old enough to stand it." This false teaching has produced such an effect upon the laity at large that they do not bring their children with crooked feet to the orthopædic surgeon for treatment until some months after birth. He enters a most solemn protest against this false teaching and urges the profession at large to attempt the rectification of these deformed feet immediately after birth, or, if they have not the time or inclination to qualify themselves to treat the case properly, they should at once advise that the child be placed under the care of some one who will treat it properly.

The method of procedure is for the operator to take the foot in his two hands and gradually, but very gently, press it around toward the normal position. As this is done the toes and front part of the foot will become blanched as white as snow and apparently perfectly bloodless. If retained in this position too long sloughing necessarily follows the obstruction to

the circulation. Therefore, after holding the foot in this improved position for a few seconds only, the hold upon the foot should be relaxed, when it will immediately recede toward its former deformed position, and the gradual return of the pink color and the natural circulation to the foot and toes will be seen.

If both feet are deformed (as is generally the case), the other foot must be treated in the same manner as the first, while the first is being restored to its previously deformed condition.

These various manœuvres must be repeated a number of times and the nurse instructed how to do the same properly every few hours day and night.

In addition to the improvement gained by frequent manipulation of the foot or feet, great advantage may be gained by covering the foot and leg with a very soft flannel bandage (leaving the toes exposed for observation), then applying a strip of adhesive plaster partly around the foot and drawing it as far in the right direction as can be borne without interfering with the circulation, which can be judged by watching the color of the toes, and then securing the plaster by a snugly-applied roller-bandage. This plan is to be followed up day by day until the foot can be retained in the normal position without interference with its circulation.

To retain it in this improved position frequently requires artificial aid, and the best that can be adopted is the plaster-of-Paris bandage over a snugly-fitting flannel roller-bandage. It fits with perfect accuracy, and, therefore, there is no danger of galling or chafing, and the child cannot kick it off, as it will any kind of a shoe that has ever been invented (even Sayre's own, which he has now abandoned for five years or more). If the feet are very much inverted and the gastrocnemius much contracted, the plaster-of-Paris bandage may be continued above the knee, flexing it a little to shorten the gastrocnemius and strongly everting the foot or feet just before the plaster sets.

In the majority of cases, by adopting the plan here suggested, the child will have his foot facing the floor by the time he is old enough to stand, and then he will cure himself by exercise—sometimes, of course, requiring the slight aid of an elastic to invert or evert the toes, as the case may be. In some cases, however, there is a structural shortening or contracture of the tissues, and the contractured tissues must here be subcutaneously divided and the foot immediately restored to its normal position, the wound hermetically sealed, and the parts retained absolutely immovable by a plaster-of-Paris bandage for from fourteen to sixteen days, when the wound will have healed and the exudate between the severed ends of the tendon will have become firmly united and of sufficient strength to be of practical utility in moving the foot. Dr. Sayre emphasized (1) the necessity of commencing treatment at birth; (2) that there is no instrument that can be compared with the human hand in rectifying the deformity; (3) that there is no means of retaining the parts in position equal to plaster-of-Paris properly applied. If the profession at large will recognize these facts, there will be very few cases of hideously-deformed club-foot requiring tarsectomy, cuneiform osteotomy, or any of the other serious operations now in vogue.—*Medical Record*, April 11, 1896.

THE TREATMENT OF CARBUNCLES.

BY THOMAS PAGE GRANT, M.D., LOUISVILLE, KY.

On Thursday afternoon Mr. L——— came to my office suffering with a carbuncle on his neck, which he said had been coming for three days and that he "waited for it to get ripe" before consulting me. Having suffered from this worst of all furunculous tumors, he was not a little anxious and somewhat depressed, as he had an important business trip arranged for the next week and he was especially anxious for a speedy recovery. On removing the dressings from his neck I found an induration about two inches in diameter covered witn pus; on cleaning it off there were brought to view six pustules in a space about three-quarters of an inch in diameter; these pustules were oozing a thick pus, and I was satisfied that my patient was in for a siege with one or more carbuncles, as there were a number of other pustules on his neck which looked bad, to say the least.

Taking a knife I made a free incision across the top of the carbuncle; after evacuating as well as I could, I washed it out with a solution of carbolic acid about three to five per cent. After this with a pair of dressing forceps I removed all the broken-down tissue I could, a plan which I have found to be of great service in many cases of carbuncles, as thereby whole colonies of micro-organisms are taken out that otherwise would increase and multiply until thrown off by suppuration. Having cleansed the wound thoroughly, I packed it with dry protonuclein special; after which I applied a poultice of flaxseed meal, on which was a teaspoonful of fluid extract of eucalyptus globulus.

As a tonic I ordered:

℞

Elix. Ferri, Quiniæ, et Strych. Phosphat., ʒ jv

Sig. A teaspoonful three times a day.

The local treatment was repeated for two days, when the poultice was left off and instead this ointment was used:

℞

Sebi ovis } aa	ʒ ij
Ol. oliv., } aa	
Ceræ flava,	ʒ ss
Zinc. oxid.,	ʒ iij
Ext. eucalypt. glob	ʒ j
Acid carbolic	grs. c

M. Fiat. unguent. Sig. Grant's Comp. Zinc Ointment.

I continued to wash the wound with the dilute carbolic acid and pack it with the protonuclin; this dressing was renewed twice daily. So rapid was the recovery that on the following Monday evening the wound was healed, and the induration was almost entirely gone, and I dismissed the case with directions that he keep a dressing of the ointment on the seat of the carbuncle for several days to protect the tender skin.

In an extensive and moderately successful experience—both personal and professional—with carbuncles, I have never seen a more threatening outlook for a serious carbuncle, nor one so quickly and satisfactorily cut short as in this case; and I am of the opinion that the results in this case are far ahead of the old-fashion treatment of poultices alone, or the more modern injection of methyl violet, or the treatment much, extolled of late, of total extirpation and curetting, which leaves a great gaping wound to be filled up by granulations and skin grafts, or to become an open ulcer followed by ugly scars. I am free to say that I am convinced that the success in this case is largely due the use of protonuclein, as with the same general line of treatment, which has been the very best I could find, I was never able to cure a carbuncle under two weeks, whereas in this case it was cured as quickly as a simple wound would have been.

THE PASSING OF THE OVARY.

"The times have changed," the ovary said;
"I am hopelessly out of date.
I have dropped from out the zenith of fame,
I have nothing left but a blasted name,
For Battey is dead, and Keith is dead,
And what has become of Tait?

My place in the alcohol jar is ta'en
By a blind, malicious worm.
It is hard for a lady of parts to be cut
By a mere cedilla under a gut!
But I'm out of the fashion and on the wane,
And you now triumphantly squirm.
So Appendix, adieu,
It is time I withdrew--
You may hear from me again."

—*Southern Medical Record.*

THE TREATMENT OF HEMORRHOIDS.—A novel procedure for the treatment of hemorrhoids is recommended in a German publication. It consists in painting the nodules once daily with a 2-per-cent. solution of nitrate of silver, which causes a gradual reduction in size without the least pain. In the cases reported the tumors had entirely disappeared in the course of one or two weeks.

I would remind you of Sir James Paget's too often neglected statement, that we ought to examine patients for operation with fully as much care as we do for life insurance; and add to it, that if this examination be so conducted we shall often find that which will make us hesitate and prepare them before subjecting them to enhanced risk of what may, in other respects, seem for their good.—*Roswell Park.*

MEDICINE.

IN CHARGE OF

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THE MODERN TREATMENT OF DIPHTHERIA IN PRIVATE PRACTICE.

BY W. A. WALKER, M.D., NEW YORK.

On the evening of September 14th, a little girl called at my office with a request that I should visit her sick brother. The public schools opened their doors on that day, and Johnny McD, although complaining of feeling sick, was sent to mingle with the hundreds of other school children.

An inspection of the case showed all the clinical symptoms of diphtheria, with a muco-purulent discharge from the nostrils so fetid that the odor filled the room. The examination completed, the mother anxiously inquired: "What is it?" "It is a case of diphtheria," I said; and her face blanched, her voice trembled, as she said quietly: "I know what that means—I have buried two children with that."

On the 19th the father called at the office to say that Johnny could not be kept in bed, and they thought he was well.

In a skeleton way this illustrates the results of treatment with antidiphtheritic serum, and stands in bold contrast with the drug treatment with the bottles of medicine, the cruel swab, the sleepless nights, the futile attempt to force food and medicine, the onset of secondary infection, and death or a tardy convalescence.

The uniform success which I have observed, and had in my own practice, has convinced me that the treatment of diphtheria with antitoxin is a great advance in therapeutics, and it is my impression that critics who have condemned this treatment have in most instances either observed only hospital patients, or have not persisted in the treatment, or perhaps have not had a fresh and reliable serum, or have not used it early enough.

From the standpoint of a general practitioner I confidently expect to cure any case of diphtheria in private practice seen within forty-eight hours of the onset of the disease.

Take, for instance, a typical case: a previously healthy child, six years of age. The family physician is called in and finds the following conditions: general depression, face pale, pulse accelerated, temperature about 101° F. Inspection of throat shows general diffuse redness, with the characteristic deposit on one or both tonsils. This peculiar deposit once seen is not readily forgotten; the high fever, flushed face, the rapid pulse usually seen in pseudo-membranous tonsillitis are absent; the margin of

the inflammatory process is usually sharply defined in diphtheria and not in tonsillitis. In follicular tonsillitis the leading symptoms are: intense congestion of the tonsils, with small discrete white patches, pulse and temperature high.

If, however, the symptoms are not well defined and the differential diagnosis cannot be clearly made, we should give the patient the benefit of the doubt and a dose of anti-diphtheritic serum administered at once. Then a culture should be made to verify the diagnosis. If I believe the case to be diphtheria, or have a reasonable doubt as to the diagnosis, I use the antitoxin whilst waiting for the report from the bacteriologist. If the case turns out to be tonsillitis, no harm has been done, as I consider a fresh, reliable serum, properly administered, devoid of danger.

Given, then, a case where the diagnosis of diphtheria is clear, I give as quickly as possible either 1000 units or 1500 units of the serum. The attendant is instructed to keep the throat clean with a bichloride solution of 1 to 5000; or a solution of permanganate of potash may be used, 1 to 4,000, if the attendant is not a trained nurse. With a young child, difficult to manage, it is best to inject the solution into the nostrils; in older children, a spray can be used in both the nostrils and throat more advantageously.

At the end of twenty-four hours I expect to find the membrane beginning to shrivel and curl up at the edges. In any event, however, I administer a second injection at this stage of the disease, and in a majority of instances this is sufficient. I advise very strongly that the second injection be given in all cases where the diagnosis of diphtheria is clear. I do not expect a cure from one injection, and rarely omit the second. If the symptoms do not indicate the beginning of convalescence at the end of forty-eight hours, I give a third injection. In fact, I would use a fourth injection if it seemed advisable at the end of another twenty-four hours, but I think this will rarely be found necessary.

I have not used anti-streptococcic serum, but I am convinced that in cases in which the treatment has been delayed, or in cases showing the streptococcic infection, proven by bacteriological investigation or from peculiar red zone of inflammation which begins to spread from the margin of the diphtheritic process, the anti-streptococcic serum should promptly be used. Not only would I do this, but in cases of severe acute disease in the throat, which present all the symptoms of diphtheria, but where the bacteriological report does not confirm the diagnosis, I would resort to the anti-streptococcic serum. In fact, if I should have a case of diphtheria in which the membrane does not begin to peel up by the end of the twenty-four hours following, say, the second injection of antitoxin, I will use the anti-streptococcic serum.

The importance of a fresh, reliable, highly-concentrated serum must not be lost sight of, and as I have full confidence in our American products, I do not use imported serums. I have used several serums, but have been best satisfied with the effects of that sent out from the biological department of Parke, Davis & Co. I heartily approve of the way this firm now puts up the serum, in bulbs instead of in bottles. It is not only highly-concentrated, but, being hermetically sealed, should keep in-

definitely. It is put up in bulbs of so many units, 250, 500, 1000, 1500; and, each bulb being a dose, there is no temptation to use a serum that has been exposed to the atmosphere. I append a table giving a report in detail of the last seven cases treated in private families:

TABULAR REPORT OF CASES.

	1	2	3	4	5	6	7
Age of patie t	8 years.	2 Years.	2 Years.	11 years.	3 years.	3 years.	8 years.
Other cases in family	.....	...	....	.....	.....	Yes.	.....
Bacteriological cultures	Yes.	Yes.	....	Yes.	Yes.	.....	Yes.
After first appearance of the disease antitoxin was given	1st day.	1st day.	3d day.	2d day.	2d day.	2d day.	3d day.
Doses of antitoxin given	3	2	2	3	3	2	3
Units in each injection	1500 1000 1000	1500	1500	1000	1500	1500	1500
Total number of units in each case	3500	3000	3000	3000	4500	3000	4500
Antitoxin used	Gibier	B of H.	B of H.	P D & Co	P D & Co.	P D & Co.	P D & Co.
Intubation	1st day.	....	....	....	2d day	.....	.....
Tube retained	3½ days	....	....	.. ..	2½ days.	.....	....
Recovery	Yes.	Yes.	Yes.	Yes.	Yes.	Yes.	Yes.

As to the medicinal treatment, I do not give any drug with the idea of influencing the course of the disease. I treat the conditions as they arise symptomatically. If I have evidence of the absorption of poisonous secretions, and a coated tongue, I give calomel tablet triturates, ¼ grain every hour, until the bowels move freely. Alcohol is rarely needed in cases receiving the serum treatment, especially if it is used early enough, whereas, under the old treatment, when we were so apt to find profound toxic symptoms, alcohol was more often needed. It is perhaps well to state here that I prefer fluid nourishment, principally milk, during the course of the disease.—*Pediatrics, Oct.* 15th, 1896.

THE PASSING OF ANTI-TOXIN.

A Paris correspondent of the *Cincinnati Lancet-Clinic* writes under the above caption that it seems that the enthusiasm manifested last year for Behring's anti-toxin serum has commenced to diminish. Official statistics published by Bertillon give 33 deaths as the enormous weekly mortality from diphtheria, figures that have never been attained during any preceding year before the discovery of this celebrated so-called specific. Like the rest of serious maladies to-day treated by serum therapy, it is necessary to recognize the fact that such medication no longer keeps the promises made in its name. Besides, Drs. Sevestra, Gaucher and Legendre have been courageous enough to make known to the Societé Medicale des Hopitaux the serious and frequent accidents to which the anti-diphtheretic serum gives rise even when applied to very simple cases of angina. But all this does not discourage the Pasteur Institute and its purblind disciples.—*New York Medical Record.*

OBSTETRICS AND GYNAECOLOGY.

IN CHARGE OF

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THE TREATMENT OF APPENDICITIS.

BY CHARLES M'BURNEY, M.D., OF NEW YORK.

I intend to give you an informal talk to-night, dwelling especially upon certain questions of treatment of appendicitis. It is a singular fact that inflammation of the appendix vermiformis as a separate disease had not been identified nor described by pathologists previous to 1886. In that year a paper upon pericecitis appeared by Dr. Reginald H. Fitz, of Boston. This gave the true pathology of a disease which is now so well known. In the development of our present knowledge of the pathology and treatment of appendicitis there have been three well-marked stages. The first stage began when Willard Parker first practised opening the so-called perityphlitic abscesses. This was in 1866 or 1867. Dr. Henry B. Sands was at that time Dr. Parker's partner, and I was a student in Dr. Parker's office. Dr. Parker deserved great credit for his boldness and originality. At first he opened only large, dull, and clearly-defined abscesses, letting the smaller and less plainly-marked ones go. After Dr. Parker's retirement from active practice, Dr. Sands carried on the work which the former had so well begun. As said above, however, the true pathology of the condition was not known until the appearance of Dr. Fitz' paper in 1886, which explained the lesion so accurately that no material addition has since been made to the pathogenesis of the disease. The proper surgical treatment was not determined for some time after this. This period of the development of the treatment was the second stage. Dr. Sands was constantly working at this surgical problem, and to him is due the whole credit for bringing the operation to a state of perfection. Thus the third stage of the development of the surgical treatment of appendicitis was reached. Dr. Sands first successfully removed the diseased appendix from a young boy, a patient of Dr Simon Baruch. It is a matter of surprise that the name of this operator is so seldom met with in the literature of the subject at the present day. Certainly one would expect that he would receive more general acknowledgment for this brilliant surgical achievement.

The obstinate resistance which Dr. Sands' operation called forth in many quarters seems laughable as we look at it now. In that day nearly every one agreed that the disease, in common with general peritonitis, should be treated with opium. Even progressive surgeons shivered at

the thought of an operation which proposed to invade the abdominal cavity so freely. Only six years ago a surgeon of large experience decided against operation in a case of appendicitis because, as he alleged, all of his cases had recovered without operation. Another surgeon, in a paper published five years ago, claimed that twenty other diseases might be confounded with appendicitis. It was alleged in a paper that appeared in a recent number of a prominent medical journal that the cause of the disease is rheumatism, and the treatment should therefore be antirheumatic. Such suggestions may be, and no doubt have been, productive of much harm by inducing practitioners to dally with cases of appendicitis expecting the administration of salicylates, salol, etc., to do good. Is there any purely medical measure which may be relied on to cure this disease? I know of none. Perhaps it is as well that we should know that there is no remedy of a medical nature, because while we are searching for some drug to cure the patient we may be doing him irreparable damage by delay. Appendicitis must logically, I think, be placed among the surgical diseases. This does not mean, of course, that every case must be operated upon, nor, on the other hand, does it follow that because certain cases recover without surgical interference the complaint is to be taken out of the list of surgical diseases. I would not be understood as saying that many purely medical men are not as clever as any surgeon in making the diagnosis of appendicitis, and as anxious to have the case treated on the best surgical principles. There are two classes of medical men who take different views of the treatment of the disease; one I have just mentioned; the other looks upon all cases as really medical in character, seldom requiring any surgical measures for their relief. These practitioners approach the subject from totally different standpoints, and too often prejudge a case without studying the conditions with sufficient care. The disease is, therefore, not so well studied or handled as it might be. This state of things is, however, gradually being cleared up, and in time the disease will surely be placed in its proper category.

As illustrating the evils of an improperly handled case, I might cite one which has recently occurred to me, and which was one of the worst cases I have seen. A young lady of good family, under the care of a medical man, who, I am glad to say, was not a regular practitioner, was suffering from her ninth attack of appendicitis, which she and her family were assured was enterocolitis. The patient herself recognized the nature of her ailment, and demanded an operation. I was called in after the patient had been ill eight days, and while recognizing the extreme gravity of the situation yielded to the solicitations of the patient and her friends to give her the only chance which, in my judgment, remained, viz., an operation. The first incision gave vent to a quart of pus, which spurted to the height of a foot. This was an aggravated case of septic peritonitis due to appendicitis, and naturally terminated fatally.

We are very far from possessing any exact knowledge as to the primary cause of appendicitis. My whole thought has run toward a stoppage of the drainage from the appendix into the colon as the true cause of the disease. There may be an interference with the emptying of the con-

tents of this little tube, due to several lesions; as, for instance, a concretion in the appendix itself, or a stricture, or accumulations of fat causing displacements, or there may be a kink or twist, either in the appendix itself or in a fold of the colon. I have never seen a case in which there was no interference with the drainage, and I am inclined to the opinion that this cause may account for all the cases. If the appendix be examined *in situ* before its relations have been disturbed, in quite a number of cases the obstruction will be discovered; in others, on the other hand, the cause of the interference with the drainage may have been swept away. If we have a patient not susceptible to sepsis, there may have been only temporary obstruction of the appendix, and only slight constitutional symptoms; while in another, with a similar obstruction, there may have been marked sepsis and great depression from the first, and the case may become rapidly fatal unless relieved by operation. In most cases of stricture no benefit can be expected from preliminary measures of treatment.

I think that the preliminary treatment is often worse than useless, and that the measures adopted in the very beginning are of extreme importance as regards the prognosis. A common procedure is the administration of a large dose of morphine, which quiets the pain and relieves the distress of the patient, but masks all symptoms. This prevents the proper study of the early stage of the complaint, the stage which is the most important both as regards diagnosis and treatment. The question of the rapid or gradual increase in severity and the advent of sepsis are obscured by the opium treatment. A patient presenting himself with severe abdominal pain, whether he has fever, nausea, vomiting, prostration, and constipation, or not, should be *suspected* of having appendicitis. The most probable cause of sudden, severe, and not otherwise easily explained intra-abdominal pain, is appendicitis. Such a patient should be put to bed and thoroughly examined; very little opium or other anodyne should be given, but the patient must be kept at rest and most carefully watched. If the diagnosis can be made during the first six hours, and the patient can be kept under observation for six hours longer, the progress of the disease may tell the whole story. Certainly, in twenty-four hours from the beginning of the attack, we may be able to decide not only as to the diagnosis, but as to the probable course and result of the case. In my opinion many of the casualties in this disease are due to neglect of the precautions which I have just recommended. The earlier the choice can be made between operative and palliative procedures the better for the patient.

The question of the proper time to operate in an acute attack of appendicitis would call for a week's discussion, and cannot be answered dogmatically for every case. Indeed, no two cases are alike, and each must be treated according to the indications. Certain well-marked symptoms must be watched for and their value carefully determined in each instance. Let us suppose an average case. The patient has had one or two attacks of vomiting; the pulse is only moderately accelerated, and is of good volume and strength; the temperature is about 100° F.; there is abdominal pain, perhaps quite severe, at first diffused, then settling

into one point about half-way between the anterior-superior spine of the ilium on the right side and the umbilicus. If in five or six hours there is no increase in urgency, the patient is not in immediate danger; if in twelve hours there is still no increase in the severity of the symptoms, the patient should soon begin to improve. On the other hand, if the urgency of the case has steadily increased in twelve hours from the time when we were able to make the diagnosis, an operation will probably be called for. If I can safely allow a patient to get over an acute attack before operating, I always prefer to do so. If in twenty-four hours from the beginning of the attack the symptoms lessen in severity, I usually feel sure that I can leave the case to nature for the time being, and defer my operation to a more favorable period. Such an attack ought to subside in from forty-eight to seventy-two hours. If, however, during the second twenty four hours of the attack I am doubtful of the outcome, I always advise an operation. This is, of course, only an imperfect answer to the question, when to operate.

In a given case, one practitioner gets his idea of the course of the attack in one way, and another in another; one relies more upon the facies, another upon the pulse, and a third upon the patient's strength. Here, of course, experience is of the greatest value. Just as soon, however, as the conclusion is reached that the disease is progressing, the time has come to operate.

I have been asked if I operate on all cases of appendicitis in which the symptoms have practically disappeared, and I have replied that my feelings have changed so much of late that I feel quite willing to do so. Treves lays down the rule that when attacks have been very numerous, and when they have been increasingly severe and threaten life, operation should be done. My own view is that after two attacks a patient will as surely have the third as that after ten attacks he will have the eleventh. There is no rule which applies to the severity of the succeeding attacks. We know, however, that each attack renders an operation more and more difficult, and that it requires a larger incision and involves greater injury to the abdominal wall.

As to the success of the operation itself, all the advantages lie with the operation that is done between the acute exacerbations of the disease. In such an operation we may look for a convalescence of from two to three weeks, unaccompanied by danger from sepsis, or the occurrence of a ventral hernia, and the mortality is almost nothing. In an operation during an acute attack, on the other hand, the prognosis is more grave. The period of convalescence will probably last for about six weeks, and there is decided danger of sepsis and of a subsequent hernia.

The decision of this question, namely, whether or not we can safely allow an attack to go on, and defer the operation, calls for the best possible judgment and experience. In operating between the attacks there is, moreover, a safe time and a bad time. No matter how favorable the patient's condition may seem to be, it is rarely safe to undertake an operation in less than two weeks after an acute attack, for the reason that although the subjective symptoms may be favorable, the local septic condition may not have been entirely removed. After the lapse of two

weeks or more all congestion, inflammatory thickening, and danger of sepsis will have disappeared.

I always use a gauze-drain except in cases of general septic peritonitis; then, in addition to abundant gauze-drainage, I use a long glass tube, which extends down to the floor of the pelvis. I use a ten-per-cent. iodoform-gauze. I have never seen iodoform-poisoning after packing the abdominal cavity with iodoform-gauze.

Formerly I was more willing to operate during the attack than I am now. My feelings have changed, because now we can offer the patient an operation without danger of hernia, if done between the attacks, and this, in addition to the other advantages of the intermediate operation, has led me to prefer it, and to always endeavor to obtain it.

What is the cause of death in appendicitis? In the acute cases, in which operation is done as soon as the diagnosis is made, it is very rare that the result is fatal. This is true of operations in the hands of all operators who have reported their cases. Also when done in the intervals of attacks operations are enormously successful. Judging from the results, this operation seems like a light and easy thing. Operations done on patients after two or three, or even four, attacks are very successful. When an operation is undertaken on a patient who has suffered from very numerous attacks of inflammation, when there are adhesions and broken-down tissue to embarrass the surgeon, and to increase the risk of sepsis, we get an occasional bad result.

The chief cause of death is, therefore, delay of one sort or another. If the cause of death be general septic peritonitis, this comes late in the attack, and after the time when a good diagnostician should have recognized the disease; therefore, had there been no delay, there would have been no septic peritonitis, which is, as you know, one of the principal causes of death in appendicitis. In the cases which have gone on to the formation of abscess, each day's delay increases the difficulty and the danger of an operation which at first might have been easy and safe, so that finally it may become an impossibility. Again, then, *delay* is the principal cause of death.

After an abscess has formed, the proper time to operate has given rise to considerable discussion. Treves, for instance, maintains the view that when suppuration has been walled in, the longer one waits before operating the nearer the pus will come to the surface. This is, in my opinion, an unscientific and unwarranted statement, because instead of approaching the surface the pus may be traveling upward toward the liver or downward into the pelvis. My own opinion is, as I said before, that in abscess-cases the sooner the operation is done the better. In such cases, if the appendix has not yet softened and broken down, and where only a small area of the peritoneum has become involved, the organ can be easily removed in most instances; but in older cases, where we meet with more advanced peritonitis, with adhesions and formation of much pus, the softened and broken-down appendix may be unrecognizable, or if recognized it cannot be safely handled or removed. An abscess opening into the gut results in one of two ways: either the disease is cured, or the appendix remains and another abscess is set up, which may discharge in

the same way. I would not operate in such cases unless the abscess recurred.

This brings us to the question of the removal of the appendix in every case. A discussion upon this point has been carried on in Philadelphia, and many operators hold that the organ should always be searched for until found and then removed. In point of fact, in some cases the appendix cannot be found; it may be hidden by a thick and more or less impenetrable wall of inflammatory tissue, and when this happens, it is frequently better to give up the search for fear of making an opening into the intestines. In many cases, too, the search will consume too much valuable time, and may lead to needless and dangerous enlargement of the wound. If the wound is thoroughly cleansed and free drainage established, little is to be feared from remnants of the appendix left in the body. If such a piece of tissue gives rise to trouble and sets up an abscess it can be operated upon secondarily. I remember a case in which death followed an ill-advised search for the appendix. An abscess-cavity about three inches in diameter had been opened, but the general peritoneal cavity was intact. As the operator did not discover the appendix, he took a sponge and so vigorously wiped the abscess-wall that he broke it, and through this rent a loop of intestine protruded and immediately drew back into the abdomen, but in that instant it had become infected, and it gave rise to a fatal septic peritonitis.

As to the sequelæ of the operation. I have not found fecal fistula so serious a complication as I feared it would be. Nearly all of these fistulæ close spontaneously. The escape of a little feces is not usually dangerous. Where these fistulæ will not close, if anything is to be done it should be done very deliberately and carefully. The only safe procedure is to enter the peritoneal cavity at some other point than through the fistula. If the fistulous opening is enlarged the intestine is pretty sure to be wounded, but an opening, say a little above the fistula, is safe and easy.—*Medical News.*

A Report of 105 Deliveries of Women with Contracted Pelves.—As a result of the study of the labor in 105 cases of contracted pelvis among a total of 4,289 cases of all kinds under observation at the German Obstetric Clinic of the University of Prague, between the years 1891 and 1895, Knapp (*Archiv für Gynökologie*, B. 51, H. 3, p. 483) has reached the following conclusions: In proportion to the reports of other clinics the number of contracted pelves has been small. Flat and generally contracted pelves, without demonstrable evidences of rachitis, appear to preponderate over deformities due to rachitis; although it is not to be denied that at least one-half of all pelvic deformities can be attributed to rachitis, as this affection is by no means uncommon among Bohemian women. Among the whole number of cases osteomalacia was observed in but five; all happened to occur in one year (1895), but there was no relation between this fact and place of residence. Bohemian women, in general robust, usually presented with contracted pelves, slender skeletons—especially was this so of primiparæ. The uterine contractions were, with individual exceptions, commensurate. Premature

rupture of the amnion protracted the labor in most cases, and occurred more commonly in connection with contracted pelves than with normal. Expectant treatment was generally sufficient in most cases, both for mother and child. In regard to morbidity, operative interference yielded for the mothers more favorable results than expectancy, and the reverse for the children. The complete results among the 105 cases were exceedingly favorable among the mothers—a mortality of 0.95 per cent.; but not so among the children—31.43 per cent. These results are attributable to the rule observed to place the greater importance upon the life of the mother.

THE QUESTION OF PUERPERAL SELF-INFECTION.—Jewet (*American Gynecological and Obstetrical Journal*, 1896,) refers in particular to the relation of pus-producing germs primarily present in the body of the pregnant woman to childbed sepsis, and draws the following conclusions:

(1) There is no clinical proof that puerperal infection can occur from normal vaginal secretions.

(2) All childbed infection in women previously healthy is by contact.

(3) Prophylactic vaginal disinfection as a routine measure is unnecessary, and even in skilled hands is probably injurious.

(4) Its general adoption in private practice could scarcely fail to be mischievous.

(5) In healthy puerperæ, delivered aseptically, post-partum douching is also contraindicated.

(6) A purulent vaginal secretion exposes the woman to puerperal infection.

(7) In the presence of such discharges at the beginning of labor the vagina should be rendered as nearly sterile as possible.

(8) Concentrated antiseptic solutions should not be used, and the process should be conducted with the least possible mechanical injury to the mucous surfaces.

(9) In case of highly infectious secretions, the preliminary disinfection should be followed by douching at intervals of two or three hours during the labor.

(10) The safest and most efficient means for correcting vicious secretions is a mild antiseptic douche, repeated once or more daily for several days during the last weeks of pregnancy.

(11) Clinically, the amount of discharge, its gross appearance, and that of the mucous and adjacent cutaneous surfaces, usually furnish a sufficient guide to its treatment.

(12) Probably unclean contact within twenty-four or forty-eight hours is an indication for prophylactic disinfection.

"Sue for your divorce in the United States. ☞ Albert L. Widdis, Attorney-at-Law and Solicitor in Chancery, 720 Chamber of Commerce, Detroit, Michigan."

NERVOUS DISEASES AND ELECTRO-THERAPEUTICS.

IN CHARGE OF
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NERVOUS SLEEPLESSNESS.

Although sulfonal has proved one of the most serviceable hypnotics in the materia medica, it has been objected to because its effect is sometimes slow in developing. This feature, however, is a distinct advantage in a certain class of cases where the patients quickly fall asleep when they first go to bed, but wake in a short time and keep wakeful for the greater part of the night.

As has been pointed out by Dr. Webber, of Boston, sulfonal acts exceedingly well in this class of patients, as it does not interfere with the first early sleep of the night, and acts later, so that the patient does not wake at night as usual. In other cases where a more rapid effect from Sulfonal is desired, it is recommended by Dr. Kinnaird (*Daily Lancet*, March 11, 1896,) that the time of the administration be so arranged as to obtain this effect at the proper time. Thus, it should be taken early in the evening if wanted to produce profound sleep at nine or ten o'clock at night. This author has found the drug an excellent substitute for opium and other dangerous anodynes, and especially emphasizes its utility in insomnia from overwork and neurasthenia, in which he considers it the remedy *par excellence*. He reports a number of cases of overworked school teachers, troubled with marked insomnia and nervousness, who were greatly benefited by the administration of sulfonal, and also recommends its use for the relief of pains if not of sufficient severity to require the employment of morphia.

THE USE OF SILVER IN GASTRIC AFFECTIONS.

Dr. D. D. Stewart (J. M. C., 1879) states that he employs silver very largely in gastric affections and with very great success, especially in cases of chronic catarrh associated with painful digestion, and in cases of nervous dyspepsia characterized by hyperchlorydria. In whatever form of stomach disorder it is employed, for its local effects, he always first thoroughly cleanses the stomach by aid of the tube, first removing all food and adherent mucus. The stomach is then preferably sprayed through the double stomach tube with the silver solution in strength of 1-1000 to 1-2000 and then subsequently washed with plain water until the washings show no colorations of silver chloride. It is interesting to

note in most cases how rapidly decomposition of silver occurs through the action of hydrochloric acid in the cells of the mucous membrane. However thoroughly the stomach is cleansed, whether with an alkali or not, almost immediately when the return water appears it is of opaque hue, showing the formation of silver chloride. In cases of achlorhydria (with atrophy of the secretory glands), in which silver is also sometimes employed, it is interesting to note the absence of the decomposition of the silver in this manner. Dr. Stewart states that he has not for years employed silver nitrate in the treatment of diseases of the stomach in any other manner than through the stomach tube. He regards its use, so common with practitioners generally, in pill form, either alone or with opium and belladonna, as most unscientific, stating that if its decomposition does not occur in process of dispensing or in keeping, it does so rapidly on reaching the stomach. Here a small portion of the stomach only can be reached by a minute mass of silver chloride or oxidized silver formed by the action of the gastric secretion on the food already in the stomach.

MANY NERVOUS DISEASES CAUSED BY A TORNADO.

Speaking in regard to the loss of voice by persons who passed through the late storm at St. Louis, I may mention the interesting case of a mother, who rushed to her child immediately after the disaster, and, taking it in her arms, saw its lips moving, but could hear no sound. She at once surmised that the child had lost its voice, and it was some time before she could be brought to the realization of the fact that she had lost the sense of hearing, and that her child was all right. Many instances can be related where, owing to the intense fright, all the special senses were involved. I have seen two cases where the nervous system was so affected that the gait or carriage was materially changed. Both of these were from purely hysterical causes. Neither of these persons was injured externally in the least, but after the storm they walked with bent back, a dragging leg, and much trembling.

In many instances insomnia was the constant attendant of the other maladies. The loss of memory was not infrequent. This was undoubtedly due to the weakened condition of the brain incidental to the fear caused by the tornado. However, it is well known that the memory exists in such cases to an extent sufficient to permit the sufferer to give dates and incidents concerning the accident, but there is always a plain inability to concentrate the attention on any other subject; hence their conversation is not only halting, but sometimes they refuse to talk at all.

A prominent doctor told me that when the storm came he was at a clinic directly opposite the City Hospital. He saw the hospital building wrecked, and then started for home as fast as he could go. After much difficulty he reached his own street and expected to find his home in ruins, and, perhaps, his family dead. He found his house and his friends safe, but when he was welcomed home he was unable to speak, and burst into tears. He says he has not yet entirely recovered from the shock.

Thousands of similar instances could be related. I know it to be a fact that the doctors in the southern portion of the city have prescribed for an unusual number of vague and indefinite pains, all of which might be attributed by the patients to biliousness, but which are plainly due to the effects of the nervous shock. The tornado produced mental wounds which have been manifested in the various conditions as shown in hysteria and neurasthenia.

In many cases of persons who have been afflicted ever since the tornado, there is not a single disease of the part involved, the disease being entirely in the mind. Some of these shocks may be so violent as to lead to insanity and further complications, which may terminate in death. The papers have already recorded two cases of suicide plainly produced in consequence of mental derangement incidental to the tornado. I have records of four cases which occurred on account of extreme fright engendered under these conditions. However, the old, old saying, that "it's an ill wind that blows no man good," is even true of the tornado. I have records of several cases where bedridden individuals, who had not been able to move about for years, were so frightened that they were able to get out of bed, and have since moved about, enjoying all the muscular functions.

The immediate effects of the tornado can now be seen in many cases, but its ultimate effects are as yet an unknown quantity. I candidly believe that the full effects are not yet manifest. Psychic shock, trauma, exposure, and fatigue will be productive of many cases of well-defined hysteria and neurasthenia. The permanency of their effects can only be determined by time.

TUBERCULAR MENINGITIS ENDING IN RECOVERY.

Dr. Jenssen, in the *Deut. Med. Woch.*, reports a case of the above description. The writer adverts to the rarity of recovery in this disease. In a few cases the diagnosis has been established by finding evidence of a past tuberculous meningitis, the patient having died of some other cause. In Freyhan's case of recovery, tubercle bacilli were found in the fluid drawn off by spinal puncture. The author then records the following case: A man, aged 19, was admitted in May, 1892, with headache, stupor, vomiting and constipation. The temperature was raised and at one time the pulse only numbered forty-two per minute. Later there was ocular paralysis and retraction of the head. Some fourteen days after admission the patient began to improve and he was discharged well a month afterward. Three years later he was again admitted into the hospital with early phthisis. The disease ran a rapid course and he died four months later. At the necropsy a yellow mass, composed of minute tubercles, and measuring four centimeters long and two centimeters wide, was found running along each side of the longitudinal fissure. The pia mater was of a milk white color in several places over the convexity of the brain; there minute tubercles were also seen. The first named tubercles consisted of detritus, fat and a few cells, but no fibrous tissue; and the last named of fibrous tissue and a few cells. In no instance were

tubercle bacilli found. At the base of the brain the same white spots containing tubercles were seen about the chiasma and Sylvian fissures. In these white areas the pia mater and arachnoid were adherent to the underlying brain tissue. As regards the treatment of this attack of tuberculous meningitis, the head was shaved and iodide of potassium was given in large doses; 80 g. were at first administered in the day, but this quantity was rapidly increased. The patient took as much as 950 g. during the illness. There was a slight coryza but no other unpleasant symptom. All the secretions and excretions gave a marked iodin reaction. The author thinks that iodin had undoubtedly a favorable effect on the disease. This treatment is not new, but these large doses of iodide have not within the author's knowledge been used before.—*Jour. Amer. Med. Assoc.*

APHASIA.—Miraille, *These de Paris*, 1896 (Abstr. in *Gaz. Hebd.*, May 31st) The memoir of M. Miraille is a careful study of sensory as compared with other types of aphasia. Sixty-two cases, many of them heretofore unpublished, form its text. The principal aim of the author is to prove, as previously in publications made in collaboration with M. Dejerine, that agraphia, which often complicates aphasia, is not localized in a special centre, as others claim, and that neither clinical obervation nor pathological anatomy demonstrates a centre for graphic images.

The paper gives the main points in regard to aphasia, and the distinction of its various forms. Together with Broca's aphasia, there exists a sensory form, the sensorial aphasia of Wernicke, of which the verbal blindness and deafness of Kussmaul are only varieties. The centres of language images (visual, auditory, and motor) are grouped in the convulsions inclosed by the fissure of Sylvius, forming the language zone. Every lesion of this region affects internal speech (Dejerine), and in consequence manifest or latent lesions of all the forms of language (speech, hearing, reading, writing), with troubles predominating in the functions of images directly destroyed. Agraphia is always present. These are the true aphasias. The pure aphasias (sub-cortical, motor aphasia, pure verbal blindness and deafness of Dejerine) are located outside the language zone and leave the internal language intact. They never cause agraphia, and affect only one phase of speech, constituting a group apart from the true aphasia. Nothing authorizes the admission of a motor centre for graphic images, and a pure agraphia remains yet to be demonstrated.

LEMON IN OPHTHALMIA NEONATORUM.—Jozef Szawelski (*Gazeta Lekarska*, No. 38, 1896) fully endorses Pinard's statement that instillation of a few drops of fresh lemon juice into a new-born infant's eyes, immediately after birth, is an excellent means of preventing purulent ophthalmia. The instillation is said to be quite painless. As a rule, the juice does not cause any conjunctival irritation. Only now and then there may appear slight catarrhal phenomena, which, however, quickly subside without any treatment. The writer emphasizes such advantages of the method as its simplicity, harmlessness, etc.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

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OBSERVATIONS ON THE SERUM REACTION IN TYPHOID FEVER AND EXPERIMENTAL CHOLERA BY THE DRIED BLOOD METHOD.

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THE METHOD AND ITS APPLICATION.

We wish to record the result of 290 blood examinations made by the method already described by one of us.[1] Instead of employing fluid blood serum as recommended by Widal, a large drop of blood is allowed to dry upon a folded piece of sterilised, non-absorbent paper, and is examined by moistening with a drop of sterilised water, mixing the solutions with a drop of pure broth culture of the typhoid bacillus, and examining the mixture as a hanging drop preparation under a dry lens of medium power. Instead of using the hollow-ground glass slide one may employ the simple old method suggested to us by Dr. Adami, of cutting a hole out of the centre of a piece of thick blotting-paper, laying this moistened on an ordinary slide, and inverting the cover glass.

This method gave good results for diagnostic purposes. The preliminary drying of the blood did not appear to interfere with the production of the reaction, and enabled the sample to be taken more easily, and transmitted more readily, especially when received from a distance. Several of our samples came by mail from points from 500 to 700 miles distant. There is always difficulty in sending fluids by mail. There is none in forwarding an ordinary envelope containing a slip of paper.

A gratuitous public service of serum diagnosis was introduced last September by the Board of Health in the Province of Quebec. Suitable outfits for taking samples, consisting of pieces of sterilised paper enclosed in envelopes, with printed directions and blank spaces for information to be filled in, have been placed at those depôts (chemists' shops) which already keep and supply outfits for diphtheria diagnosis. In case a negative result is obtained, and the suspicions of typhoid continue, a glass tube is furnished in which a duplicate sample of fresh blood is also required to be sent.

The dried blood method was selected more on account of the great facility it afforded for the collection and transmission by post to the laboratory of samples in proper condition for examination, than in the expectation of any greater delicacy over the fresh serum method as used in ordinary hospital work. In fact, we had anticipated a somewhat less delicate reaction by the dried blood method. Widal [2] has recorded the results of five blood examinations in which, for comparison, typhoid blood and typhoid serum were dried for forty-eight hours on sponges, and examined at the end of that time. The typhoid serum gave the reaction typically when in a dilution of 1 to 10 with typhoid broth culture, while the dried blood also gave the reaction somewhat less promptly in dilution of 1 to 5. This shows under these conditions a lesser delicacy with dried blood than dried serum, but the fact remains that, according to Widal, a positive reaction was obtained by the dried blood in all 5 cases. Previous to learning of these experiments of Widal, we had used with success absorbent cotton-wool swabs used in our diphtheria outfits; but we discarded these, and adopted the collections of the blood on non-absorbent surfaces as being more efficient.

We have not yet fully decided as to the relative merits of the dry and moist methods of collection, which is a matter depending chiefly on the conditions under which the samples have to be transmitted and collected. We anticipated that the dried blood would be less delicate than the fresh serum, and that though the positive results would be equally reliable in either case, the negative would have less weight. On the other hand, with the fluid method the after-growth of contaminating bacteria during transmission might obscure a positive reaction if these were motile forms. Fluid samples received by us in a state of decomposition were found difficult to examine, though in some cases the heating of the sample to 65° C. to destroy the bacteria previous to mixing with the typhoid culture enabled the reaction to be obtained. Decomposition does not in itself destroy the specific substance which produces the reaction, nor does a heat of 65° C.

In view of the assumed superior delicacy of the fresh serum, we obtained whenever possible duplicate samples of fresh and dried blood for re-examination when the first result was negative. To our surprise, when a negative result was obtained by the dry method, the result by the fluid serum was also negative, and where we obtained a positive result on re-examination with the fluid serum without exception the duplicate sample of dried blood also gave a positive result.

We would explain this apparent deviation from what one would theoretically expect by the fact that there seems to exist in typhoid serum an intensity of reaction beyond what is ordinarily necessary for the test, so that dilutions of 1 to 10, or even 1 to 100, may be practised in a case showing well-marked reaction, without interfering with the result. By our method we use a concentrated solution, which may explain the fact that our results appear to be, so far, quite as good as those already recorded by the Widal method, although Widal and others record almost uniform success with the reaction in suitable cases.

Theolen and Mills [3] report that by the Widal method the blood serum

taken between the sixth and twenty-second days only gave the reaction six times out of twelve re-examinations, in cases which had been shown to be typhoid by the positive result of the test.

In addition to the samples obtained through the Board of Health, we examined a number of hospital cases to see what percentage of pos tive results could be obtained under favorable conditions, and at a period of the disease when the reaction could be expected with certainty. This was the more necessary as a great many of the samples sent to the Board of Health were taken at periods prior to the fifth day, a date at which, according to the statements of the best authorities, the reaction would not yet be present.

In public health laboratory work in which samples are largely obtained from obscure and doubtful cases, the proportion of positive results is less than when samples are taken indiscriminately from ordinary cases of typhoid, which form the basis of hospital observations. The effect of this circumstance upon the statistics of diphtheria has been pointed out by Welch,[4] who says: "We attribute the special differences in the reported statistics of results of different investigators mainly to the class of cases selected for investigation. If only typical and characteristic cases of diphtheria be selected, the proportion of cases in which the diphtheria bacilli are missed will certainly be small, and may be *nil*. If, however, the less characteristic cases of diphtheria, concerning which, in many cases, no one can be sure without a bacteriological examination, whether these are genuine diphtheria or not be included, there may be a relatively large percentage of negative results." This applies equally to typhoid.

It seems self-evident that where samples have to be taken by persons without special training, the same degree of accuracy cannot be expected as where a personal supervision can be exercised over all stages of the work by the bacteriologist himself. Thus in organizing our public diagnosis, preliminary sterilisation of the skin previous to taking the sample had to be omitted, lest an accidental inclusion of some of the disinfectant might disturb the result.

As we found that about 90 per cent. of the cases could be diagnosed by means of the dry method at the first examination, we thought it better to leave the more refined and careful study of the negative result to be dealt with by re-examination, as this would only be necessary then in 10 per cent. of the cases.

We may sum up by saying that nine cases of typhoid out of ten can readily be diagnosed by the serum methods. The fresh serum might give a clearer reaction in the tenth case, but in the other nine, unless the examinations be made without delay, the fresh serum or fluid method is more likely to cause confusion than the dry blood method.

APPEARANCE OF THE REACTION.

When a drop of sterilised water is added to a drop of dried typhoid blood, a solution is obtained in a minute or two which is mixed with a drop of actively motile typhoid culture, preferably not over twenty-four hours old. The motion rapidly stops and bacilli run together into loose coils or clumps. This takes place usually in a few minutes, but some-

times may require three to four hours, or even twenty-four hours. On the other hand, the stoppage of motion may be instantaneous, and as this will delay rather than aid the formation of clumps, it is better to make a second sample, in which the serum is less concentrated. As a rule a slow reaction gives larger clumps than a quick one.

In a small portion of cases, in which the clumping proceeds in an atypical manner, a certain number of motile forms can be seen even after several hours. This partial or incomplete reaction we have met with chiefly (1) in the very early stages, (2) or late in convalescence, (3) in relapsing cases, and (4) in very mild cases. The gradual and progressive loss of the motion, and the slow but steady growth of the clumps, together with the fact that the motion never becomes considerable, enables this incomplete reaction to be distinguished without much difficulty from the brusque stoppage followed by the prompt reappearance and increased activity of motion occasionally seen when normal serum in concentrated form is mixed with a typhoid culture. Although aseptic precautions are not required when the action is complete within a few minutes, the occasional occurrence of this slowly developing reaction makes it necessary to guard as far as possible against the development of extraneous motile forms in the blood. As these might be present upon any odd piece of paper employed, special slips of non-absorbent paper are provided in well-made envelopes, which together have undergone sterilisation. We sterilise our paper by exposing it, first to formaldehyde gas followed by ammonia vapour, following the method successfully used by Kinyoun in sterilising books. It is essential that the drop of blood, however small, be thick enough to form a slight crust on the paper, as an imperceptible film will not yield a strong solution when moistened.

Heating the paper by holding it over the lamp will also sterilise it in a few moments. In case malaria is suspected, the sending of a thin film dried on glass as an additional sample would permit of this being examined for the plasmodium.

A capillary pipette filled with typhoid culture, and another filled with sterilised water, will suffice for as many examinations as can be made in one day, and save a great deal of manipulation of small glass ware, sterilising in the flame, etc. Twenty specimens, on the average, can be examined in one hour by this method.

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(To be Continued.)

NOSE AND THROAT.

IN CHARGE OF

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TREATMENT OF ACUTE CORYZA.

Now that the damp, chilly season has arrived when colds in the head are very prevalent, it is well to recall some of the favorite prescriptions for this complaint.

Capitan, in *Médecine Moderne*, recommends the following powder, which, he says, arrests generally, almost immediately, a commencing coryza; if from the very onset the patient takes pains to snuff up a pinch into each nostril and draw it in deeply:

℞ Salol..... 1 gramme.
Salicylic acid.....20 centigrammes.
Tannin.....10 centigrammes.
Powdered boric acid..... 4 grammes M.

Take a pinch every hour for half a day, and then discontinue the use of this snuff, for, if it be persevered with, it may cause an eczematous eruption on the margins of the nostrils from the action of the phenic acid resulting from decomposition of the salol.

Another snuff-powder by the same writer is recommended as being similar in its action to the preceding, but less powerful:

℞ Powder of talc..... 5 grammes.
Antipyrine..... 1 gramme.
Pulv. boracic acid..... 2 grammes.
Salicylic acid.....25 centigrammes. M.

This powder may be snuffed up the nostrils without fear of irritation.

M. Tessier, in the *Annales de Médecine*, indicates several formulæ for the treatment of this affection. The following is a mixture for inhalation:

℞ Acid carbolic fort..... 5 grammes.
Liquor ammon. fort..... 5 grammes.
Water.....15 grammes.
Alcohol.....15 grammes. M.

Pour a few drops on blotting-paper and inhale a few seconds. In some cases chloroform or tincture of camphor may be advantageously substituted for the water in the above.

Dobson, in the *Lancet*, advises respiration of camphor coarsely powdered and placed in a jug of boiling water as an effective remedy against coryza. "About one drachm of camphor should be added to half a pint of fluid and the steam thus impregnated should be inhaled slowly ten minutes every hour, repeating it three or four times, when the nasal inflammation will be much relieved. The jug containing the water as well as the face of the patient must be surrounded with a paper cone during the period of inhalation."

The following formulæ is recommended by Dr. Beverley Robinson:

℞ Pulv. fol. belladonnæ.....ʒ i.
Pulv. morph. sulph.....gr. ij.
Pulv. gum accaciæ, ad.....ʒ ss. M.
Sig. Use with the powder-blower for anterior and posterior nares.

This powder should be blown through the nose both anteriorly and posteriorly so as to coat over the mucous membrane lining the nasal passages very thoroughly. "Its most noticeable action is to diminish the congested condition of the interior of the nose, so as to permit freer passage of the inspired and expired current of air. This it does, doubtless, by contracting the small blood-vessels and lessening the amount of watery fluid which exudes from them into the cellular structure. Besides all three agents, morphia, belladonna and gum are decidedly antiphlogistic in their action upon the inflamed pituitary."

Dr. Morrell Mackenzie advises the following snuff, which is to be used from the commencement of the cold, but never longer than twenty-four hours.

℞ Morph. sulph.....12 centigrammes.
Subnitrate of bismuth..... 3 gr. 50. M.

To conclude: A person who is conscious of having taken a cold in the head should take his room and resort for relief to some one of the measures of local treatment above given. For internal medication we do not think that much confidence is to be placed in the small doses of atrophine or the large doses of quinine advised by some authorities. If there be a furred tongue and a deranged state of the *primæ viæ*, a saline laxative, a full dose of rhubarb and soda, or even a cholagogue cathartic, may be indicated. Hourly doses (one drop) of tincture of aconite may be given, or two or three five-grain doses of acetanilid two hours apart, or two ten-grain doses of phenacetine at the same or a longer interval, if there be considerable fever and headache. It is worse than useless to take any other nourishment than a little hot liquid food till the acute symptoms have somewhat subsided. General diaphoresis will seldom be advisable for a simple coryza. Dover's powder is apt to disturb the stomach and constipate, and can seldom be required. Antimonials: jaborandi and pilocarpine are not to be thought of. A teaspoonful every two hours of aromatic spirits of ammonia can do no harm; or two or three drops of the liquor morph. sulph. along with two and a half grains of ammonium carbonate every hour for six hours, and afterwards every hour and a half. According to Phillips, a few drops of the tincture

of euphrasia officinalis (eye-bright) taken at the beginning of the attack of acute coryza, and repeated every two or three hours, will often abort it, and this treatment is endorsed by Dr. G. M. Garland in a former number of this journal.—*The Boston Medical and Surgical Journal.*

HÆMORRHAGE AFTER REMOVAL OF THE TONSILS.

The amygdalotome, or tonsil guillotine, in one or another of its multifarious forms, is to be found in almost every general practitioner's armamentarium, and it is to be feared that few who possess it feel any hesitation about resorting to its use, no matter what may be the features of the enlarged tonsil or the peculiarities of the patient. There seems to be a general impression that ablation of the tonsil by means of the guillotine is free from danger. It is in consequence of this impression perhaps that, as Dr. William H. Daly, of Pittsburgh, said in a recent discussion of the subject before the American Laryngological Association, a report of which we publish in this issue of the *Journal*, there has been "more bad surgery done upon the tonsils than upon any other part of the human body."

This discussion followed the reading of a paper by Dr. John W. Farlow, of Boston, entitled "Some Remarks on Removal of the Tonsils," which we printed in the *Journal* for November 9th. Dr. Farlow made a particular point of the danger of hæmorrhage after the use of the guillotine, especially in adults and in cases in which the tonsil was large and tough. Dr. Farlow's statement that "very many cases of troublesome bleeding occur which are never reported" should not pass unheeded, or his other statement that "in delicate children every drop of blood may be valuable." Dr. Farlow was supported by every speaker who took part in the discussion. Dr. Bosworth, of New York, after citing Guersant's statement that in five thousand amygdalotomies he had never seen severe hæmorrhage, added the significant comment that Guersant's cases had all been in children. Dr Ingals, of Chicago, said that he was well aware of the danger from bleeding when the amygdalotome was used, for he had seen a number of trying instances of the kind. Dr. Daly placed himself on record as saying that "the man who pinned his faith to the statement that there was no danger of hæmorrhage in amygdalotomy would sooner or later meet his Waterloo," and added that he deserved to meet such a fate for relying upon worthless statistics. He himself had met with several cases of alarming hæmorrhage, and gave a striking sketch of a case in which he had made an appointment to remove the tonsils from a farmer's son, but had learned on his arrival at the house that the boy was out on the farm, whereupon he had gone out and met the boy in the woods and done the operation then and there, with the result that he had "had to spend several hours with his fingers in the patient's throat to arrest the hæmorrhage." Dr. Casselberry had had enough cases of serious hæmorrhage to make him "cautious and somewhat anxious" about every patient operated upon with the amygdalotome, and he was not sure that such hæmorrhages might not occur in

children; indeed, he knew of a fatal case in a child, three years old, whom there had been no reason to regard as a "bleeder." Dr. Shurly had had two very serious cases of tonsillar hæmorrhage in children. Dr. Murray mentioned an instance in which the patient had nearly bled to death.

If this is what skilled laryngologists have to say of the tonsil guillotine, the general practitioner may well be cautious in its use. If the tonsil must still be subjected to surgical procedures as often as it has been in the past, at least let those procedures be made as free from danger as possible, either by substituting a crushing for a cutting instrument, as advocated by Dr. Farlow, or by taking away "only enough of the projecting portion to relieve the mechanical obstruction and the pressure and irritation produced," which Dr. Shurly has found sufficient.—*New York Medical Journal.*

RHINITIS AS A FACTOR IN PHLYCTÆNULAR OPHTHALMIA, WITH ITS THERAPEUTIC CONSEQUENCES.—At a recent meeting of the College of Physicians of Philadelphia, Dr. B. Alexander Randall read a paper on this subject, in which he said that among the many causative factors of phlyctænular conjunctivitis and keratitis, inflammatory inflections of the nose must not be ignored; for they could frequently be demonstrated to be of prime importance. In the great majority of cases, hyperæmia and oversecretion of the nasal mucous membrane would be found more constant than eczema or any other of the more incidental accompaniments: and treatment limited to this alone would often bring about a cure quicker than could be effected by any local measures without it. Elaborate apparatus and skill were uncalled for. Mere illumination of the nares would usually show the condition, and simple sprays of alkaline and of oily solutions could do much to relieve it. Calomel insufflation could be more valuable than in the conjunctiva, and, instead of the iodine being a bar to its use, its combination with mopping the pharyngeal vault with iodine could be especially efficacious. Dr. Randall said that the ophthalmologist must not neglect this field, which used to be his; and, unless he had some one at hand better prepared than himself to give it due care, he should stand ready to study and treat in his patients these simpler nasal affections.

In the discussion which followed the reading of this paper, Dr. Ring stated that he had for nearly two years referred nearly all cases of phlyctænular conjunctivitis treated in his clinic at the Episcopal Hospital to the throat and nose department for nasal treatment.

Dr. Risley had been well satisfied with the results of rhinological treatment of obstinate cases.

Dr. de Schweinitz considered that in all these cases attention should be drawn to the condition of the nares. In his public clinics, when immediate nasal treatment had been impracticable, he had sterilized the nose as well as the eye by the simple remedies that he kept on hand for the purpose, and the results had been the happiest.—*New York Medical Journal.*

EYE AND EAR.

IN CHARGE OF

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SUPPURATIVE OTITIS MEDIA WITH MASTOIDITIS.

Any sharp separation of these subjects must always be theoretical, and especially so since the rapid increase in the methods of treatment for both the aural cavities involved at the same time.

Since the introduction of Stakie's surgical method for opening the autrum and middle ear into one cavity and the modification of this method by the more thorough procedure of Schwartze, these operations have been generally adopted for a class of cases in which the aurist was formerly content to cleanse the tympanum, with its accessory cavities, by medication, a surgical operation through the external auditory canal, or at most by resorting to the old classical method of opening the mastoid cells. Stakie's and Schwartze's methods have been so generally accepted in Europe, and are so favorably regarded in America, that they are now well-established surgical procedures, and will undoubtedly become more and more universally adopted, to the exclusion of the older forms of treatment.

With regard to the proper treatment of an acute inflammation of the middle ear, the general admonition of Burnett holds good: non-irritation of the inflamed parts, with loose, light antiseptic dressings, introduced by surgically clean instruments and hands.

The proper treatment of an acute otitis media is largely negative, after either spontaneous or artificial opening of the membrane, and onset of a discharge.

The inflammation of the middle ear being due to pathogenic germs (streptococci) in the middle ear, entering through the naso-pharynx, nature's effort is to afford them an exit through the spontaneous rupture of the membrane. Thus a siphonic action is established which empties the mastoid antrum and saves the mastoid cavity, if this siphonic current is not stopped by irritative interference.

For the above reasons all forms of inflation of the tympanum should be carefully avoided in acute otitis media, not only for the welfare of the ear already infected with pathogenic germs, but also to avoid forcing similar germs into the as yet unaffected ear.

As soon as perforation occurs, naturally, or after paracentesis, Burnett inserts a strip of iodoform gauze or carbolic acid gauze, one inch and a

half long by half an inch wide, into the auditory canal, for antiseptic drainage purposes, places a tuft of the same in the concha, and leaves the ear alone for 24 hours, when the dressing is renewed, if it be moist, or left in situ if dry. At no time is the acutely inflamed ear syringed or anything put into it except the dressing referred to.

McBride, of Glasgow, favors all natural efforts at free drainage. The auditory function in many cases of mastoid disease is so far injured that any danger of making it worse may be ignored. The facial nerve may be injured in any mastoid operation, but it runs most risk of suffering when the bridge of bone left after the posterior wall has been removed and the mastoid autrum exposed is attacked. In these cases intensely septic cavities are being dealt with, and unless there is reason to believe in the existence of intra-cranial suppuration nothing should be done by the removal of healthy bone to bring them into communication with the cerebral structures. Diseased bone is septic and must be freely removed.

When the middle ear and its surrounding cavities have been thoroughly opened, McBride syringes thoroughly with 1 to 2,000 perchloride solution at the time of operation, then dries out carefully, fills the cavity with a mixture of boric acid and iodoform, and plugs the wound and meatus with sterilized iodoform gauze. If the posterior walls of the meatus have been removed the meatus must be plugged first to avoid stenosis. There is often a good deal of oozing within the first 24 hours, so that a change of dressing may be necessary. After this the frequency of the dressing must depend upon the time the parts remain sweet. Irrigation is best not employed so long as there is no smell from the dressings.

McBride's experience is that complete cure is the exception, although the discharge may be reduced to a minimum. For this reason he is inclined to make free use of the lead nail, which can be worn without discomfort, and which permits of thorough cleansing with antiseptic liquids when the dry method of dressing has failed.

Condensed from *Sajous Univ. An. Med. Sciences.*

EUCAINE A SUBSTITUTE FOR COCAINE.—De Mets has made comparative trials of eucaine and cocaine upon healthy eyes, using a 2 per cent. solution of the hydrochlorate in each case. Eucaine is a derivative of cocaine, and occurs as a white neutral bitter powder, soluble in water, and not decomposed on boiling. Hence its solutions can be sterilized, an advantage which cocaine does not possess, since its solutions are modified and rendered less active by this treatment. The instillation of it is a little more disagreeable than that of cocaine, the smarting is greater and lasts longer. It does not produce the marked vasoconstriction of cocaine; thus the eye, instead of becoming white, as if frozen, is usually slightly injected. When with cocaine the ocular conjunctiva becomes exsanguine and the eyeball is projected forward, the pupils being widely dilated through suppression, at any rate to some degree, of the lid reflex, anæsthesia is at its maximum and the moment for operation has arrived. With eucaine the eye preserves its normal aspect, and the palpebral chink remains invariable without forward protrusion of the eyeball; anæsthesia to pain is produced at least as strongly with eucaine when

tactile sensibility appears less affected. Its action is first manifested seven minutes after instillation; it lasts twenty to thirty minutes, the maximum being reached at about fifteen minutes. The author considers its anæsthetic action strong and sure. It does not produce mydriasis; hence it is valuable in cases of operation for glaucoma, where the mydriasis of cocaine is inconvenient. De Mets finds a mixture of 3 parts eucaine to 1 part cocaine, of whatever strength, very useful. It is superior to cocaine in affections of the throat and nose, it being far less toxic as regards the heart and circulation; and it is indicated in dentistry because it does not produce an infiltration and œdema like those of cocaine. This absence of toxicity must also be considered as regards ophthalmic surgery. Besides corneal ulcerations other more grave and even fatal sequelæ have been recorded after cocaine instillations.—*Belg. Med.; trans. for Br. Med. Jr.*

THE DIAGNOSIS OF TUBERCULOSIS FROM THE MORPHOLOGY OF THE BLOOD.—Holmes (*New York Medical Record*, Vol. ix, No. 5, 1896) sums up an apparently careful article as follows:

That the diagnosis of tuberculosis, from the morphological appearance of the blood, rests with the hypothesis that each individual has a biological prototype in the leucocytes of his own blood.

That the leucocytes are independent organisms with functions analogous to the larger organisms.

That they pass through the stages of growth and decay.

That disintegration may occur at any age.

That they are tissue-formers.

That tuberculosis is characterized by tissue disintegration.

That in tuberculous blood there is an abundant cell-disintegration, premature development, premature decay, and more or less deviation from the normal percentages of the various types of cells.

If there is marked disintegration of the leucocytes, we can predict a similar condition of the larger organism.

A diagnosis of tuberculosis can be made from the blood earlier than by any other means we now possess.

A diagnosis may be made from the blood alone in a well-marked case.

Thus far no other pathological condition has been found which presents the similar blood appearances.

EMULSION OF BROMOFORM.—

Bromoform	48 drops
Expressed oil of almond	20 gm.
Powdered tragacanth	2 gm.
Powdered acacia	4 gm.
Cherry laurel water	4 gm.
Distilled water	120 ccm.

Add the bromoform to the oil of almond and emulsify with the gums after the usual method. This affords a good method of administering bromoform in a palatable form.—*Am. Druggist*, 1896, *xxviii.*, 326.

PAEDIATRICS.

IN CHARGE OF

ALLEN M. BAINES, M D., C.M.

Physician, Victoria Hospital for Sick Children; Physician, Out-door Department Toronto General Hospital. 194 Simcoe Street, and

J. T. FOTHERINGHAM, B.A., M.B., M.D., C.M.,

Physician, St. Michael's Hospital; Physician, Outdoor Department Toronto General Hospital; Physician, Out-door Department Victoria Hospital for Sick Children. 39 Carlton Street.

In *Archives of Pædiatrics* for December Dr. H. Koplik of New York has a very interesting paper on the importance of certain changes in the mucous membrane of the mouth as diagnostic of measles. It seems, as he says, "indeed very late in the day to describe something connected with the diagnosis of the exanthemata." But if what he says is true, he has certainly made an original and valuable contribution to the subject. After detailing references to it, more or less fragmentary, from Baginsky, Osler, Henoch, and others, he goes on to say that examination of the mouth, not later than the first twenty-four or forty-eight hours, will show "a redness of the fauces; perhaps, not in all cases, a few spots on the soft palate. On the buccal mucous membrane and the inside of the lips we invariably see a distinct eruption. It consists of small, irregular spots, of a bright red color. In the centre of each spot there is noted, in strong daylight, a minute bluish white speck. These red spots, with accompanying specks of a bluish white color, are absolutely pathognomonic of beginning measles, and when seen can be relied upon as the forerunner of the skin eruption. These bluish white specks have, I believe, been described by French writers, though the author has described them to students before he has seen mention of them elsewhere. No one, however, has to my knowledge called attention to the pathognomonic nature of these small bluish white specks, and their background of red irregular shaped spots. They cannot be mistaken for sprue, because they are not as large nor as white as sprue spots. These specks of bluish white, surrounded by a red area, are seen on the buccal mucous membrane and on the inside of the lips, not on the soft or hard palate. Sometimes only a few red spots, with the central bluish point, may exist, six or more, and in marked cases they may cover the whole inside of the buccal mucous membrane. If these bluish white specks, on a red spotted background, are at the height of their development, they never become white opaque as sprue, and in this respect, when once seen, are diagnostic, nor do they ever coalesce to become plaque-like in form. They retain the punctate character. I have no ed and demonstrated these spots on the buccal mucous membrane when the other symptoms were so slight that physicians have doubted the diagnosis. I have been invariably confirmed in my diagnosis by the subsequent appearance of the skin eruption."

A gain of two days in the diagnosis of measles would be most valuable, especially from the point of view of Preventive Medicine. F.

CONSTIPATION IN INFANCY.—Constipation may have many causes. When due to deficient or too viscid intestinal mucus, correct the cause—usually a febrile condition, or a chronic intestinal catarrh—and give the infant a large quantity of water to drink.

In rickets, chronic peritonitis, intestinal atrophy and hydrocephalus, the constipation may be due to incomplete peristalsis; and in tumors, intussusception, volvulus, undue length of the descending colon, and imperforation, it may be due to mechanical obstruction.

An apparent constipation may result from insufficient amount of nutriment. This is easily corrected, as well as the constipation due to a superabundance of starch or of casein, or to a lack of sugar in the food.

In infants oatmeal should be substituted for other starchy food. A lack of sugar can be corrected by giving, previously to every feeding or nursing, some tepid water or oatmeal water, in which a piece of loaf-sugar has been dissolved. Older children will take honey to advantage. Regular doses of cod-liver oil, given two or three times daily, will obviate or relieve constipation besides fulfilling other indications.

Rectal injections, friction and kneading of the abdomen, and electricity are often useful. Calcined magnesia (five to ten grains a day), either alone or combined with rhubarb, is indicated when there is an excess of acid in the gastric and intestinal contents. Nux vomica, to which may be added some purgative extract, is indicated in insufficient muscular action of the intestine. As an occasional purgative, for the purpose of relieving the intestinal tract of indigestible and injurious masses, castor oil is probably the best and mildest. Calomel or compound licorice powder, or the fluid extract of rhamnus frangula, are valuable for this purpose.—A. JACOBI.

Constipation can usually be cured by strict attention to the diet, by the use of fruits, vegetables and cereals. In young infants an increase of the fat in the milk will in quite a number of cases relieve it. Variation in the percentage of sugar is occasionally found to be efficient. Many drugs have been employed in the treatment of constipation, but as a rule they are very apt to be only temporary in their action. In connection with the diet, place most reliance upon enemata and laxative suppositories, such as those made of glycerine or of gluten.—T. M. ROTCH, *Pædiatrics*, Dec 1, 1896.

In Annals of *Gynæcology and Pædiatry* for Dec., 1896, Mrs. Rorer, principal of the Philadelphia School for Cooking, closes a good paper on "The Care of Children," as follows, and we beg leave to add an unctuous Amen thereto:

"Just a word in parting regarding the dabbling in doctoring and medicines. A mother or a guardian has no right whatever to prescribe even the simplest dose of medicine to a child unless she has studied medicine. It is common sense to suppose that a man or woman who has given four or five years to the careful study of this great science knows more about it and the use of medicines than a person who has never studied for a

moment. More children are killed by home doctoring than perhaps any other cause. When the child is ill consult a physician, allowing him to do the practising, and I only wish for his sake as well as for the community at large that he might drop his drugs and become a counsellor; but this change can never be brought about until the community are educated to it. Let us pay our physicians a yearly fee for keeping us well, healthy and happy. Under our present system we pay him only to keep us ill, and then we too often forget to pay him after he has pulled us through a serious illness. In all the pharmacopœias there is not a single active medicine which has not the power to derange more or less the gastric digestion, and for this reason we call it a medicine. It really is not a food. The family medicine-chest should be condemned unless it is kept locked and the family physician carries the key."

THE BACTERIA OF THE GASTRO-INTESTINAL TRACT.—The rôle played by bacteria in the alimentary canal has been much discussed of late. It has been maintained that certain forms of bacteria are so important to digestive processes that animal life could not be maintained in their absence. To settle the biological problem as to whether the microbes always present in the intestinal canal are to be looked upon as parasites or symbioten, and what rôle they may play in the digestive process, Methol and Theerfelder have made a most interesting and painstaking series of observations which they have reported in the *Archives für Kinderheilkunde.*

The authors, in order to solve this problem, had first to find a sterile animal to work upon. This they accomplished in performing Cæsarian section on a full term guinea-pig in a sterile atmosphere. They thus obtained an animal which was "sterile born." The little pig was placed in a sterile apparatus, and was furnished with sterile air and sterile food. Feeding was necessary every hour day and night. The pig was killed in eight days. During the time it had taken 330 cm. of milk, and had gained 10 grams in weight.

The bacteriological examination showed the entire intestinal tract to be germ free as well as the excrement. It was thus proved that in guinea-pigs the assimilation of animal food is not dependent upon the presence of bacteria in the gastro-intestinal tract, and the inference is strong that the same would be true of other animals.—*Archives of Pædiatrics*—Dec., 1896.

PRESCRIPTIONS.—[From "Diseases of Children," by Hatfield, 1896.]:—

℞ Sodii bromid..... 4.
Syr. rhei aromat. .....
Tinct. opii camp., aa..... 8.
Aquæ anisi, *ad* ..... 60.

M. Sig. One tablespoonful every two to four hours to check greenish dejections.

℞ Lactic acid..... 2.
Simple syrup..... 98.
Lemon juice .....q. s.

M. Sig. One teaspoonful every three hours to check greenish dejections.

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Editorial.

TORONTO BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

At a meeting of the members of the British Medical Association resident in Toronto, it was decided to revive the Toronto Branch formed here some time ago, but which subsequently lapsed. In view of the approaching meeting of the British Medical Association in Montreal next year, it was thought that the formation of a branch in Toronto would greatly assist the Montreal Branch in making the Association meeting a success. In order to take part in the Montreal meeting it will be necessary to become a member of the British Medical Association. The existence of a branch organization here will greatly facilitate the election of members. Without the branch organization, membership could only be secured by making application to the general secretary in London, which would require at least a fortnight.

The President and Council of the Toronto Branch are anxious to secure the co-operation of those who are already members of the British Medical Association in their endeavor to extend the membership in Toronto and the vicinity, and to assure a good attendance at next year's meeting in Montreal. Gentlemen who are already members of the British Medical Association, and who are desirous of joining the Toronto Branch, are requested to send in their names to the Branch secretary.

Applications for membership in the Association will be received by the secretary and forms furnished. These forms are to be returned to the secretary, when the candidate's election will be proceeded with. The annual membership fee is one guinea, and the member receives the *British Medical Journal* weekly.

The officers of the Toronto Branch are:—President, I. H. Cameron, M.B.; Vice-President, W. J. Wilson, M.D.; Treasurer, H. Machell, M.D.; Secretary, W. B. Thistle, M.D., 160 McCaul St., Toronto; Council: J. E. Graham, M.D.; Chas Sheard, M.D.; Alex. MacPhedran, M.B.; Allan Baines, M.D,; John Caven, M.D.

WILDCAT MEDICAL COLLEGES.

In Canada, thanks to wise legislation and the watchfulness of the various governing bodies who have to do with the regulation of medical practice, we are pretty free from the out-and-out quack. We have quite enough to contend against, in the way of over-supply in the ranks, proprietary medicines which the people go and buy without consulting a physician, hard times, small fees, *et. al.*

But ours is a land of milk and honey compared with the one to the south of us. Here the quack flourisheth. We have before us the prospectus of the "Wisconsin Eclectic Medical College;" a *fac simile* copy of its charter, its diploma, and an examination blank. The diploma is in Latin, the others in English. The office of this institution is at 1,001 W. Congress St., Chicago. The prospectus gives the names of the president and director, the treasurer, secretary, vice-president and another director; but says nothing about professors or lecturers.

It would seem that the College is legally authorized to grant degrees, as is seen by the following, taken from its prospectus:

"They shall have power to teach students the science of medicine, of preparing them to practise as physicians, and conferring upon them, they having been examined and having succeeded in passing such examination as to their knowledge of said science, the degree of DOCTOR OF MEDICINE, or such other degree as may be proper according to the knowledge exhibited on such examination."

Attendance at the College is not necessary, as candidates may be examined at their own homes, an examination blank being sent to them we suppose to be written upon at leisure, and if the applicant is up to their "standard" the degree of Doctor of Medicine can be conferred at any time. The total fees for matriculation, examination and graduation are $35.00.

That such a fraud can be perpetrated upon the people of the United States seems almost incredible, and yet we believe there are hundreds—nay—thousands, of "medical men" practising in that land of freedom who have no better qualification than the one referred to above.

It is well understood by the profession, and to a great extent out of it, that people like to be humbugged.

The conscientious physician, who through a liberal education obtained by years of toil knows how little he does know, is often sorely tempted to cater to this love of the mysterious and supernatural which the mass of the people have in regard to matters connected with the use of medicine. He sees the Indian herb doctor, or the negro wench in her cabin, curing various diseases with her herbs; he has to deal with hysterics and neurasthenics who delight in consulting clairvoyants and fortune-tellers, and he knows that it is the appeal to the supernatural, and the strong psychical impression which works the cure. When in addition the State steps in and legislates in favor of patent frauds, as was done by the State of Wisconsin in the case noted above, the practitioner would need to be more than human who would not try to get even by practising just as

much fraud as would go, and gulling the people to the fullest extent of his powers.

Let us be thankful that in Canada we are protected as a profession, and that the people are able to get a *quid pro quo* for the money they pay for the services of a medical man.

BRITISH MEDICAL ASSOCIATION.

MONTREAL MEETING, AUGUST 31st, 1897.

Active steps are now being taken in Montreal in connection with the forthcoming meeting. All the necessary local committees have been appointed, and are busily at work.

None but members of the Association or specially invited guests are allowed to be present at the meetings and to take part in the discussions.

All properly qualified British subjects can become candidates for membership.

There is a unanimous desire on the part of the members of the Montreal Branch of the Association that the coming meeting shall be regarded not as a local event, but as a welcome to the Association from the whole Dominion. To this end, not only the Presidents of the various branches of the Association, but also the Presidents of the Dominion and Provincial Medical Associations have been placed upon the Executive Committee. Further signs of this desire to make this in no sense a local affair will be forthcoming shortly.

With reference to the presence of American practitioners at the meeting of the Montreal Branch, the branch finds itself in a position of some little delicacy. Members would very willingly invite practitioners across the border to become members of the Association, but, unfortunately, there is a recent by-law to the effect that none but British subjects can gain membership. The hope to have the by-law amended is destroyed by the occurrence this year of the International Medical Congress at Moscow. To amend the by-law would throw the Association open to the charge of attempting to promote a rival international meeting. It is to be understood that, in the present condition of politics, it would be a grave mistake for the Association to throw itself open to this charge. It has, however, been the custom in previous years to invite a series of guests to the meetings, and, acting on this precedent, the leading American authorities in the various branches of medicine will undoubtedly be asked to attend at Montreal.

SYPHILODERMATA.

A careful consideration and trial of the various methods of treating the syphilodermata has led me to the following conclusions: (Wm. S. Gottheil. M.D.)

1. In the primary stage, when only the chancre is present, no general treatment; calomel locally.

2. As soon as the secondary period sets in, as shown by the general adenopathy, angina, cephalalgia, and eruption, the internal treatment for mild cases should be ¼ to ¾ of a grain of the proto-iodide of mercury, t.d., continued for three months, or until the symptoms disappear. In severer cases, with pustular eruptions, severe anginas, persistent headaches, etc., a course of 6 to 10 intra-muscular injections of 10% calomel-albolene suspension, 5 to 10 minims at intervals of 5 to 15 days, should be employed.

3. After completion of the course and cessation of the symptoms, employ tonics, etc., without specific treatment, for three months.

4. Thereupon a second calomel course as above, plus a small dose (15 grains) of iodide of potassium, in milk, after meals. This to be given whether later secondary symptoms of the skin and mucosæ appear or not.

5. Second intermission of treatment, lasting 3 to 6 months, according to the presence or absence of symptoms.

6. In the second year, if tertiary lesions marked by deeper and more localized ulceration are present, give the iodide of potassium in increasing doses (60 to 600 grains daily), as may be necessary. Combine with it occasional courses of calomel injections. If no lesions appear, give a mild course of both.

The best local treatment of the syphilodermata is with the mercurial plaster-mull.

THE TREATMENT OF WARTY GROWTH OF THE GENITALS.—William S. Gottheil, in a paper on Epithalions of the Penis, read before the Society for Medical Progress, November 14th, 1896, concludes as follows: (*International Journal of Surgery.*)

1. Warty growths of the genitals, more especially in the male, are always to be suspected of malignancy, no matter how innocent they seem.

2. They should either be left entirely alone, or be thoroughly removed by knife or cautery.

3. Imperfect attempts at destruction, as with nitrate of silver, carbolic acid, etc., are especially to be avoided, there being many cases recorded in which they have apparently stimulated a benign growth into malignant action.

CONTAGIOUS IMPETIGO: By William S. Gottheil, M.D. (*Pædiatrics*).—This is a self-limited contagious disease of children appearing in localized epidemics, and first described by Tilbury Fox in 1864. Accompanied by a moderate fever and some gastric disturbance, there appear on the face and hands groups of flat vesicles filled with transparent or cloudy serum. These dry up into characteristic golden-yellow crusts, which fall off in two or three weeks, leaving circular, reddened, non-ulcerated areas behind. Successive crops of vesicles may prolong the disease for two months or more. It is undoubtedly parasitic; but, though Kaposi claims

to have found it, the etiological factor is still unknown. The treatment consists in removal of the crusts with olive oil compresses, cleansing the skin with hot water and soap, boric acid solution, etc., followed by the use of Lassar's paste:

℞. Acid, salicylic.....30 grains.
Petrolati..... 1 ounce.
Zinci oxidi.....
Amyli.....a. a. ½ ounce.

VINEGAR AS AN ANTIDOTE TO CARBOLIC ACID.—Applied to the skin or mucous membrane burnt by carbolic acid, vinegar causes a rapid disappearance of the characteristic whiteness, as well as the numbness produced by the acid; it also prevents the formation of a slough. Vinegar also neutralises carbolic acid introduced into the stomach. In cases where carbolic acid has been swallowed, therefore, Professor Carleton suggests, the patient should be made to drink vinegar diluted with an equal quantity of water, and the stomach should then be washed out.—*Practitioner.*

THE MICROBE PATHOLOGY.—*Phila. Ledger.* It is a sad time for medical art and for the sick when physicians turn from the study of individual patients to the investigation of disease as an abstract condition, forgetting that every disease is profoundly modified in its type and issue by the peculiarities of the persons in whom it occurs. Of the many evils begotten of this error, a very serious one is that it tends to impair a physician's sense of responsibility, and, therefore, lessen that anxious vigilance which he should never suspend while the issues of life and death are in his hands. At the same time the patients of a physician who appears to have little faith in his own powers soon tend to lose their faith in him. It is through faith alone that innumerable cures are wrought, cures that have even been called miraculous.

We desire to draw special attention to the high encomiums of Dr. Playter's recent book, from the medical press and eminent physicians; and also to his Sanatorium for cases of incipient phthisis, heart disease, rheumatism, neuroses, etc., on page xx of advertisements, etc.

The American Association of Obstetricians and Gynecologists at its ninth annual meeting held at Richmond, Va., elected the following-named officers for the ensuing year, namely:—President, James F. W. Ross, M.D., Toronto; vice-presidents, George Ben Johnson, M.D., Richmond, and John C. Sexton, M.D., Rushville, Ind.; secretary, William Warren Potter, M.D., Buffalo; treasurer, Xavier O. Werder, M.D., Pittsburg; executive council, Charles A. L. Reed, M.D., Cincinnatti; Lewis S. McMurtry, M.D., Louisville; A. Vander Veer, M.D., Albany; J. Henry Carstens, M.D., Detroit; and William E. B. Davis, M.D., Birmingham.

The next annual meeting was appointed to be held at the Cataract House, Niagara Falls, N.Y., Tuesday, Wednesday, Thursday and Friday, August 17th, 18th, 19th and 20th, 1897.

Book Reviews.

AN ATLAS ON OPHTHALMOSCOPY, WITH AN INTRODUCTION TO THE USE OF THE OPHTHALMOSCOPE. By DR. O. HAAB, Professor of Ophthalmology, University of Zurich. Translated and Edited by Ernest Clark, M.D.B.S., London. William Wood & Co., New York.

This admirable work forms a small and convenient volume, containing over fifty pages of text and a slightly larger number of plates, a description of each being placed opposite the plates.

The first part of the work gives us the principles of ophthalmoscopy in a concise way, and is not too technical even for a student.

The drawings for the plates are original and depict the normal as well as the diseased fundus, and are, as a rule, exceedingly well executed. Messrs. Wood & Co. intend publishing a series of atlases.

A MANUAL OF THE PRACTICE OF MEDICINE. By DR. GEO. ROE LOCKWOOD, with illustrations and colored plates. Philadelphia, W. B. Saunders, 1896.

Standing midway between the regular text-books upon medicine and the "student aid" and "quiz compend" series, we find a class of books of which this is an exceptionally good example.

The present position of medical practice is tersely but clearly portrayed, and the work possesses usefulness for more than one class of readers. It can be studied with advantage by students who have read the larger systems conscientiously; and to that large constituency, the general practitioners, who have grown a trifle rusty, and who wish to note the advances of recent years without taking the time to wade through much literature, it is likely to prove a valuable acquisition.

The classification is, in the main, that of Osler, and is, consequently, admirable. In treating of diseases of the kidney, Delafield and Prudden have been followed, and no more scientifically accurate division of this group of diseases is before the profession.

The writer does not appear to strive for originality, but it would be unfair to consider his production as a mere compilation. It is something more and something better than that, and can be commended as a reliable epitome of modern medicine.

ANATOMY, DESCRIPTIVE AND SURGICAL.—By HENRY GRAY, F.R.S., Lecturer on Anatomy at St. George's Hospital, London. New and thoroughly revised American edition, much enlarged in text, and in engravings both colored and black. In one imperial octavo volume of 1,239 pages, with 772 large and elaborate engravings on wood. Price of edition with illustrations in colors: Cloth, $7 00; leather, $8.00. Price of edition with illustrations in black: Cloth, $6.00; leather, $7.00. Lea Brothers & Co., publishers, Philadelphia and New York, 1896.

For the first time in its long history, "Gray" has been revised exclusively by American anatomists, and their aim to adapt it thoroughly to the most modern teaching methods and the requirements of American students has been no less strenuous than that it should record the latest advances of anatomical science. There has therefore been effected, not only a general revision of the work as a whole, but also entire changes in certain departments in which investigation has been especially active during recent years. The sections which have been rewritten are those on the Brain, the Teeth, and the Abdominal Viscera, exclusive of the Genito-Urinary Tract, while those on Histology and Development—a feature peculiar to Gray, and of obvious value—have been remodeled. The splendid series of illustrations which have always distinguished Gray has been enriched in this new edition by no less than one hundred and thirty five additional engravings. These illustrations have long been known as the most effective and intelligible presentations of anatomical structures, and in the present issue this supremacy is fully maintained. The practical application of anatomical facts in medicine and surgery has always been a prominent feature of the work, and this distinctive characteristic has again received the especial care of the editors.

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A CASE OF TYPHOID FEVER WITH UNUSUAL NERVOUS SYMPTOMS.

Read before Toronto Clinical Society, November 11th, 1896, by J. T. Fotheringham, Physician to St. Michael's Hospital, Toronto General Hospital Out patient Department, etc. Patient, L. S., in Toronto General Hospital from July 18th to September 28th, 1896.

Family History.—Unimportant.

Personal History.—Æt. 21, thin, of poor education and rather deficient intelligence. At about 15 years of age had chorea, and was very hysterical, having delusions, her mother says, for about a year. Three years ago she had acute rheumatism, from which she apparently recovered, till about one year ago it began again in sub-acute form affecting mainly the fingers, wrists, sometimes ankles, sometimes muscles of chest-wall. The heart has suffered, having a systolic mitral murmur.

Present Illness.—At end of 4th week in hospital from sub-acute rheumatism, temperature crept up in 3 days from an average of 99° F. to 104° F., when she was transferred to another ward as a typhoid suspect. This diagnosis was made certain only with difficulty and by the exclusion of septic processes, the pelvis, as well as other parts, being carefully searched for pus collections, but in vain. The rash appeared in due time, and the characteristic stools and the mode of convalescence also went to decide the nature of the case.

Heart.—From about 16th to 29th August, *i.e.*, during first two weeks of typhoid, heart was in threatening condition, running from 112-158 at various times, as seen by the appended chart. Stimulants were used freely during all this time, up to an ounce of brandy every 2 hours, a ½ oz. every hour, with 3 m. Liq. Strychn. every 4 hours.

Respiratory System.—No complication, but respiration during the above-mentioned period of heart excitement (two weeks or so) ran from 24 to 40. Bronchitis was not troublesome.

Digestive System.—Tongue was not very foul or dry, though characteristic enough. Odor of breath quite distinctly that of typhoid. The first few days constipation was distinct, even croton-oil being needed; but later on there was rather a slight tendency to diarrhœa. Tympanites can scarcely be said to have existed, and very little tenderness. Defæcation and micturition were involuntary (or partially due to mere uncleanliness and carelessness) for nine or ten days. during middle of attack. Always took milk greedily and digested it well, crying for it loudly during the height of her period of delirium.

Nervous System.—Bore brunt of attack, which was much masked by hysteric conditions. The history of chorea and hysteria showed an outcrop here of an interesting kind. The first day of high temperature (104° F.) was August 15th, from which date for 10 days sleep was almost absent. She finally got sleep after five or six enemata (once every 4-6 hours) of bromide, hyoscyamus and valerian in large doses. During this 10 days period of sleeplessness, on the fourth day or thereabouts she fell into a state of trance, somewhat like that of coma-vigil, but differing in having no *subsultus tendinum*, and in having the peculiar expreasion of exaltation and restfulness seen in such cases, with eyes fully open but not distended, eye-ball slightly upturned, breathing tranquil. She would not speak or pay any attention to orders. The eyes could be closed by repeatedly placing the fingers gently on them when they would remain closed for some time. Her pulse ran during this period 100-132 per minute, and breath-rate 22-32. After 24 hours or so of this state she became noisy and unmanageable, not trying to leave bed, but crying and shouting so that she had to be removed to the attic to give other patients any sleep. She remained more or less noisy for nearly a week, having fits of crying and screaming of varying length and severity, with delirium, in which she accused herself of having committed murder and nearly all the other crimes forbidden by the Decalogue. She was at no time cataleptic, but the muscular movements, which began as a sort of subsultus as she grew noisy and delirious after her trance period, became more violent and continuous, making one think of chorea again. They gradually grew less clonic and became more tonic till it could be seen, as she lay in bed, that the flexors had the ascendancy everywhere. The thumbs were turned in, the fingers flexed and bunched, and the bedding firmly gripped. The legs were crossed and drawn up. She could be lifted up to a sitting position by the hand under the head, and if an attempt were made to pull an elbow out from the side the body would follow it. This period of muscular spasm occupied about 10 days in onset course and duration, and was ended by lysis—not suddenly. At its height there was well marked hysterical paresis of right side of face, eyes being unequally opened mouth opened awry, and tongue protruded to right side. Every now and then during the week of marked muscular disturbance she would have lucid intervals *(sic)*, during which she would do as she was bidden, put out tongue, etc., but usually lay dull and obstinate, with

expression of great mental distress, occasionally crying out to be prayed for, etc, and constantly champing, spitting and blowing out froth from the mouth like a maniac. By August 29th, *i.e.*, about 10 days from her attack of noisiness and delirium, she was lying quietly, with spastic state of muscles growing less each day, though still having involuntary (or partially, merely careless) movements and urine. September 27th up and dressed, but mind still ill-balanced, with tendency to melancholia of religious form. Left Toronto General Hospital 27th or 28th.

Treatment.—Throughout purely symptomatic—salol pretty steadily. Calomel or Epsom salts as needed. Stimulant as heart called for it, usually brandy—say as much as 1 oz. every 2 hours, and at times oftener. Liq. Strychn., m. 3, every 4 hours steadily until August 30th, when she was transferred again from the attic.

CLINICAL NOTES ON A CASE OF APOPLEXY.

BY A. J. HARRINGTON, M.D., TORONTO.

Patient, female, æt 34, primipara, five months pregnant, previous history good. She was stoutly built and plethoric Father and mother alive. Mother has kidney disease. I received a message by telephone at midnight, from her husband, that she had a great deal of pain in her back. I telephoned a prescription to the drug-store from which he was telephoning. as follows:

℞ Liq opii sedativæ..... mxl.
Tr. Card. Co..... ℥i.
Elix Simplicis ad..... ℥i.

Fm. ℥ii. every four hours only if in great pain.

With the additional instruction to apply hot linseed poultices or a hot water-bag to seat of pain, and I would see her in the morning. Saw her next morning at 9 o'clock.

Her face and extremities were much swollen; still complained of the severe pains in lumbar region; the prescribed medicines had given no relief; the second dose she had vomited. She now complained of headache. Temperature 101 4, pulse 90, respiration 30. She ascribed her trouble to right lung, which she said gave her great pain every time she took a deep breath; but a careful examination revealed no trouble there. Her swollen features and extremities she thought a necessary sequence of her pregnant condition. She had had no headache, no backache, and no eye symptoms. I now ordered magnesia sulphate in a concentrated solution, to be followed by hot drinks, also caffein citrate grs. i., phenacetin grs. v., one powder every two hours. The saline to be repeated in an hour, if necessary. Got a specimen of the urine and took it for examination, with intention of soon returning. Found specimen contained 75% by bulk of albumen. Returned at 10.30 and found her just recovering from a convulsion. Her tongue had been severely bitten, but she said she felt much better. However, I gave her ℥i. chloral hydrat per rectum, and ½ gr. morph. sulph. with atropia $\frac{1}{75}$ gr. Examination re-

vealed an os uteri, small and extremely hard. I now sent for assistance. At 11.40 the facial muscles began to twitch, so I immediately gave chloroform, but the explosion came. She had been up to this time in a very comfortable condition; her pulse rate had gone down to 84. She suddenly cried out "Oh, my arm!" and her right arm, which had been slightly raised, fell limp to her side, and immediately coma, with stertorous breathing, came on. I gave chloroform pretty freely, but it did not change the character of her breathing. Her pupils were both dilated. Five minutes later Dr. Temple arrived.

Emptying the uterus was suggested, and after much difficulty, owing to the rigidity of the cervix, it was accomplished. The patient's condition never changed until the last, when her pulse went up to 160. No chloroform was necessary during operative procedures, although given to a certain extent, about 2½ drams being used in all, the greater part of that amount having been used at the onset of the attack. Patient succumbed at 1.45, two hours and a quarter after the first convulsion.

This case, you will observe, has some very interesting clinical features. The primary fit was undoubtedly uræmic in its character. Its short duration, the bitter tongue, the presence of albumen in urine, headache, pain in renal region, the puffed face and swollen extremities, all indicated nephritis. The second fit was different. The exclamation of pain in right arm, the supervening comatose state, with sturtor, the dilated pupils, the unequal bilateral muscular relaxation, extreme cyanosis, no response to chloroform, all point to grave apoplexy, first most probably into right ventricle, thence into left ventricle through foramen of Munro. What was the hemorrhage due to? Was it owing to arterio sclerosis following nephritis, or was the existing nephritis the result of arterio sclerosis? Was the vascular disease hereditary, her aunt having since died of apoplexy at an early age? In this lies the obscurity. Osler mentions a case of ventricular apoplexy in a puerperal patient which was diagnosed uræmic. I am sorry that I am unable to have given a more definite history of her prodromic symptoms, but when one sees a case in the above condition for the first time, one is apt to treat the present first and the past afterwards. Every remedy was used to resuscitate this patient, but to no avail. Unfortunately, I was unable to obtain a post-mortem examination.

TORONTO CLINICAL SOCIETY.

At the last meeting of the Society a paper on neurasthenia was read by Dr. D. C. Meyers. He pointed out that owing to the wide prevalence of this disease much attention was being paid to the anatomical conditions which underlie it. The relation existing between intellectual effort and alteration of brain tissue was a subject which had been studied with much interest by different investigators. One of the most frequent causes of the condition was excessive mental exertion. During mental exertion hyperæmia and changes in the brain-cell structures were going on. This had been proven by experiments, which the essayist described. Two factors contributed to this condition—first, a general increase of

blood pressure during psychical activity; second, the manner in which the greater veins of the pia mater enter the longitudinal sinus, since these are directed in an opposite course to that in which the blood in the sinus flows. Hence the latter would tend to retard the venous flow, and, both acting together would favor the rapid production of hypercemia. Experiment had shown that the products of cerebral metabolism, being absorbed by the lymph which bathes the walls of the vessels, possessed the power of causing variations in the calibre of the blood-vessels. Experiments showing the change in cell-structure had been carried on in bees, birds, etc., examinations being made before and after the day's labor. The changes noted were referable to the changes in the form of the nucleus and the protoplasm. Photographs exhibited by the essayist showed (1) that in the unstimulated cell the nucleus stained lighter than the protoplasm; (2) that the first effect of stimulation reduces the staining power of the nucleus, and the protoplasm to one of equal intensity; (3) that the nucleus stains steadily and distinctly darker, and that it becomes deformed and crenated.

After referring to other observations of experiments of the above sort, the essayist referred to the great strides which had been made (1) in placing mental disease on a firmer anatomical basis; (2) in allowing us justly to conclude that since the nervous system presides either directly or indirectly over all the functions of the body, any serious disturbance in its action could influence the functions of these organs, and lead to the various disturbances met with in neurasthenia. As an example, he referred to the dyspepsia common in nervous weakness. It had been said that this was caused by the absorption of toxines from the alimentary canal. That toxines were so absorbed at a later period was more than probable, and the trouble by this means prolonged; but he thought the primary cause was to be sought for in the changes in the cortical cells of the brain, which caused the impairment of the digestive functions; and that it was only after these had occurred that the toxines played an important rôle.

Drs. Ryerson, Oldright and Spencer discussed the paper.

"Cases illustrating the cure of epilepsy and chorea by the relief of eye strain." A paper with this title was read by G. Sterling Ryerson. He said that headache arose from errors of refraction and muscular insufficiency. It was only a step further to admit that severe manifestations of nerve disorder, attended by gross lesions, might be caused by the same irritation. The first case referred to was that of A. W., aged 25. Consulted the essayist on account of headache, dizziness, loss of memory, and, at times, loss of consciousness. She had been under general treatment without benefit. Patient was found to be suffering from hyperphoria and esophoria and considerable weakness of vision. The right superior rectus was tenotomised, and in nine or ten days the head was better and she complained of no dizziness. Complete recovery ensued. In the second case the patient was a young woman suffering from severe headaches in the occiput and the nape of the neck, and pain over the angle of the scapula. Pains in this region were almost invariably caused by defects of the ocular muscle, whereas frontal pain was gener-

ally due to refractive troubles. She had marked chorea. The vision was affected, and was three and a-half degrees of right hyperphoria. Partial tenotomy of the right superior rectus was done. Recovery good.

He had not operated on many cases of epilepsy referred to him in which hyperphoria existed, because the degree of defect was small. Two or three examinations of such cases should be made in as many days to make sure of the average amount of defect. A constant average of 2% would justify operation.

Dr. Bingham proposed a query as to how the pain occurred at the angle of the scapula. His own explanation was that the sympathetic system, which was directly connected with the nerves that supply the angle of the scapula, would be affected in ocular strain.

Dr. Spencer asked if obstinate constipation was not often associated with eye defect. He remembered a case of astigmatism which he had referred to the reader of the paper. The patient reported after treatment that he was not only cured of the trouble but the constipation as well.

Dr. Meyers pointed out that phenomena which arose through the artificial production of eye strain, muscular rigidity, unconsciousness and attacks resembling epilepsy, showed the connection of the eye with the cuneate lobe. This showed the importance of always examining the eye in cases where the diagnosis was obscure.

Dr. Ryerson concurred with the remarks of the preceding speakers. He said the relief afforded to the nervous system by the removal of the source of irritation had an indirect effect on the digestive organs.

Dr. Norman Walker gave the clinical notes of a case which had come under his care during the past month. Patient had come to the office complaining of great pain in the back of the neck and headache, together with general malaise, which had existed for about a week. The next day symptoms were much worse. Quinine and anti-kamnia was ordered. Also a tonic. Another medical man was callled in next day who pronounced it gastric fever. Left a bottle of medicine. The next day the essayist saw the case. Patient was in bed, head thrown back, very restless and irritable. He was unable to move the right hand and arm. The grip of the left was very much weakened. Required to have constant rubbing and raising of the arms, and asked to have them crossed over the chest. Mustard was applied to the neck and the lumbar region. Calomel administered. Hypodermic morphia given in the neck. Urine passed by catheter only. Patient became somewhat delirious. Morphia, atrophia and strychnine were given. Pulse got as low as 49. Applications were made to the spine of iodine, mustard, etc., at different times. Potassium iodide was ordered in five-grain doses every two hours. Symptoms of iodism followed. The extremities were cold. Condition continued for several days. The first sign of returning power was about the sixth day, when patient tried to brush a fly off his nose. Diagnosis at this time, cerebral hemorrhage or tumor, with pressure effects. To overcome the inactivity of the bowels croton oil was administered. Temperature never ranged very high. Nutrient enemata seemed to do good. Mercury by inunction was ordered. Stomach very

irritable throughout, accompanied by hiccough. Eleventh day the patient began to improve considerably. Gradually the sedative treatment was stopped. Power returned in the hands and arms, and the bladder and bowel symptoms improved. The doctor thought the cause of the trouble was not definite. The family history was good. The patient himself thought the trouble was brought about by worry ; he had overheard some rumors that had been carried to his mother-in-law. He had had a wordy war with this person and had not felt well since. The doctor thought if any medicine did any good is was the iodide. The croton oil did move the bowels, and improvement continued under the use of inunction after the iodide was stopped Nourishment by rectum contributed much to recovery. Convalescence was slow.

Dr. Meyers said certain symptoms of the case pointed to meningitis, but other symptoms excluded this, particularly the absence of fever and eye trouble. If the disease had been due to graver lesions, recovery would not have occurred so promptly. His own opinion of the case was that it was hysterical or functional paralysis. In these cases the urine was often retained. One suspicious point was the brushing of the fly off the nose when paralysis was present. The diagnosis was borne out by the cause—mental excitement previous to the coming on of the attack.

Dr. Oldright added that another point which emphasized the neurotic nature of the attack was the fact that the patient got relief from having somebody move his arms backward and forward.

I. H. Cameron made some remarks on prostatic hypertrophy. He said he would not enter into a discussion of the pathology and nature of this trouble, but would rather confine himself to the matter of the treatment. He inclined to the view of Harrison that the prostate gland was a muscular sphincter of the bladder rather than a gland, as the amount of muscular tissue was relatively much greater than that of the glandular. Under certain circumstances where hypertrophy of this structure took place there was apt to be increase of function. Following this there was more or less retention of the urine. All were agreed that Sir Henry Thompson was right in establishing the teaching that when a man has residual urine he should have artificial relief by catheter frequently. That doctrine had held universal sway until one day a celebrated physician, now gone over to the majority, unfortunately, wrote an article on catheter fever, and set the world agog by pointing out the frequency of cystitis and distention of the urinary tract by the catheter, which, if properly used and not abused, relieved the condition which latterly ended in this distressing state. After Sir Andrew Clarke's paper, there was a strong reaction on the part of the older men, who began to fear that their patients would die of surgical kidney. The speaker said no doubt many had died and many would die of surgical kidney as long as the catheter was used without antiseptic precautions. If antiseptic precautions were observed, however, surgical kidney would be avoided rather than caused by the proper use of the catheter. In advanced stages of prostatic enlargement where micturition was impossible, and the intolerance of the bladder was very great, though only a small amount of urine was in it, and where it was necessary to use the catheter, a surgeon

could not constantly be present. Therefore there was great need of insistence that in cases of prostatic hypertrophy the proper use of a catheter would lead to cure. It was only in its misuse that dangerous results followed, by infection by pyogenic organisms from without.

Another method of treating the condition, which had found its strongest advocate in White, of Philadelphia, was that of orchidectomy. In one hundred and eleven cases in which operation had been done there had been twenty deaths. The average age of the cases in which recovery took place was 66½ years, the average age of fatal cases 75. So age seemed to have some influence in determining the mortality—something that would be expected, because of the probable presence of arterio sclerosis and less recuperative power of the tissues the older the men were. Of the twenty fatal cases, White, for one reason and another, thought that thirteen might be excluded, as the precedent condition of the patient was such as to prevent success in the operation. This seemed to be a fair showing. On the other hand, Falls, of Glasgow, had had six cases with five deaths as a result of operation, the remaining one not being benefited in thirty days. The speaker himself would refer but to four of the cases which had come under his observation as being typical examples of classes of cases in which this operation was applicable. The first case was that of a man, sixty-nine or seventy, who came under his care in the hospital suffering from retention of urine and with cystitis. Prostatic enlargement was noted, and it was determined to do orchidectomy to relieve him. Due care was not taken to ascertain the condition of the kidneys before operation. At this time catheter drew urine at ten inches. Operation presented no difficulty. Patient was returned to bed. Never very well afterwards. Urine was drawn by catheter at nine inches. Autopsy showed he had surgical kidney on both sides. He should not have been operated upon, the speaker held.

The second case was that of a man aged sixty-four or sixty-five where this condition was present. Unilateral orchidectomy was done. So far as voluntary micturition was concerned operation had no effect whatever. The patient returned in a year or two later for an aggravated cystitis. Sounding him, a stone was discovered. Lithotomy was done, and bladder drained. Good recovery. Returned in two years. Another stone was found. Nucleus was a hair, likely carried in by catheter. Later the patient returned again. Bladder was drained and recovery followed. Patient returned still again, suffering from cystitis. The other testicle was removed. During convalescence patient became extremely depressed and melancholy. Was given the fresh testicles of sheep. Mental trouble disappeared. The function of voluntary micturition was not restored. It was not expected, as for two years the function had been in abeyance.

The third case was that of a man, eighty-one or eighty-two, upon whom the speaker operated last May. The patient had suffered for some time from febrite disturbance incident to prolonged cystitis. An operation was followed by prompt and decided improvement. He presented rather active delirium during convalescence, but this passed off.

The fourth case was that of a man aged sixty-seven, suffering from

acute retention of urine which had existed about six weeks. Operation was done, and within three or four days patient was able to pass urine. Recovery complete.

Dr. Grasett said he leaned to conservatism in the treatment of this condition. Thus far he had been able to treat those cases without resorting to the method advised by White. He thought surgeons were not sufficiently careful in regard to the cleanliness of urethral instruments, Where the catheter was kept clean its use could be maintained a long time. A patient under observation, aged 83, had used one twelve years —a man in active life. He had had most beneficial results from drainage also. Cases treated in this way were referred to.

Dr. E. E. King thought that the operation of orchidectomy would never become the operation of choice in enlarged prostate, but in those where great urgency was necessary. A case of this latter sort on which he had operated showed marked improvement within eighteen hours. A second case in which he had done vasectomy was not much benefited by the operation. A third case in which orchidectomy was done died of pneumonia subsequent to the operation. In six other cases results were so good that the speaker was very well satisfied with the operation.

Dr. G. A. Bingham concurred with the views expressed by the leader of the discussion as to the treatment of long-standing and obstinate cases of prostatic enlargement. In the earlier stages he had found the method of stripping the prostate and the vesicles of decided value. This relieved the glandular congestion and enlargement. The speaker cited cases in which he had noted distinct benefit from this course of treatment. Before resorting to removal of the testicles he would examine the bladder by the superpubic cystotomy. In this way drainage could be performed, the condition of the walls of the bladder ascertained, the diagnosis established, and, if necessary, a removal of a portion of the middle lobe.

EMPYEMA IN CHILDREN.—On the ground of an experience of 86 cases, Dr. Cantley, *Internat. Med. Magazine*, concludes:

1. When pus is found to be present in the pleural cavity, the proper treatment is to remove it.
2. The best method is simple incision and drainage.
3. The best site for the operation is the fifth space in the mid-axilary line.
4. Irrigation is inadmissable, and is indicated only in cases of fœtid effusion.
5. Exploration and scraping of the cavity are not necessary.
6. Resection of rib is practically never necessary in children as a primary procedure to procure efficient drainage; but may be required to secure the closure of the sinus, subsequently, by allowing the chest wall to fall in.
7. Collapse of the chest wall is not a result to be desired in the early stages of the treatment.
8. Rapid and complete expansion of the lungs is the great object of treatment.
9. The tube must be removed early.

SURGERY.

IN CHARGE OF

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THE AFTER-TREATMENT OF OPERATIVE CASES.

BY HENRY ROTH, M.D.

The subject of the paper which I wish to present to you this evening is, without doubt, one of great importance to the specialist as well as to the general practitioner. It is especially so to the latter, as many patients, after being operated upon by the surgeon, are left to the attending physician. Books on surgery do not pay sufficient attention to the subject, and this is also the case with lectures on surgery.

There has been a great deal said and written on the preparation for operations, but comparatively little about the management of the patient afterward. This is strange, for the slightest error in the after-treatment may spoil the result of a most brilliantly performed operation, and the least infringement upon the rules of asepsis and antisepsis may cause the death of the patient. In college we have opportunity to witness numerous operations; we see the preparations and the various steps in the operation proper, but as soon as the dressing is completed the case disappears from our observation. Those of us who were fortunate enough to enjoy the benefits of a hospital training had frequent occasion to study and carry out the principles of after-treatment, as this is the most important duty of the hospital interne.

There are certain well-defined principles which can be followed in conducting the after-treatment of a patient upon whom an operation has been performed. It is hardly possible to go into every detail in the time allotted to this paper; I will therefore select the most important ones, describing most fully those methods which were employed at the Lebanon Hospital during my service as house surgeon.

After-treatment proper begins immediately when the dressing is completed, and very often while the patient is still on the operating-table. However, there are certain details which we must carry out before the patient is operated upon, but which have a very close connection with the management after the operation. I refer to the selection and preparation of the sick room and bed in which the patient is to be placed after the operation.

In hospitals a room should be selected with only a few patients in it. In a private house a large and light room is required. Carpets and all unnecessary furniture should be removed. The temperature of the room should be as near to 76° F. as possible; where steam heat is used the temperature can very easily be controlled. Ventilation should be carried out by opening the upper sash of the windows. After tracheotomy and intubation the air in the room should be moistened by steam escaping from a croup-kettle. In summer window-blinds should be closed during the day, especially if the room is exposed to the sun.

An iron bed is always preferable, but if such is not at hand, as in some private houses, an open wooden bed may be used. Folding-beds are never permissible. The bed should be very thoroughly cleansed, and great vigilance observed against the invasion of vermin. The advantage of iron beds is the ease with which they can be kept clean. These beds usually have a wire spring; on top of this is placed a hair mattress; between this and the sheet a rubber sheet should be spread so as to avoid soiling of the mattress. It is very advantageous to spread a folded draw sheet across the middle of the bed; this can be very easily removed when soiled, without materially disturbing the patient. Great care should be taken not to have many folds pressing on the patient, and thus exposing him to the dangers of bed-sores. The patient should be covered with light blankets; in summer a sheet will suffice.

Absolute rest, not only to the body but to the mind as well, is of great importance. Visitors or letters should not be allowed to reach the patient for the first few days, as this very often does harm, and I have repeatedly seen the temperature rise one or two degrees after visiting hours, especially in children. After major operations, friends of the patient should have absolutely nothing to do with the nursing, for they might lead to great distress by errors committed through the kindest intentions. Wherever possible, a trained nurse should be employed, as post-operative cases require uninterrupted attention day and night. The unremitting vigilance which must be observed was well illustrated by a patient under my care in the hospital: a very insubordinate woman, the night after operation for a procidentia of the uterus, during a brief absence of the nurse, left her bed to get a glass of water, and tore a silver wire suture from her perineum. Remarkably enough, she made a perfect recovery. During the night there should be very little light in the room, as the reverse may disturb the patient's sleep. Light should be entirely excluded from the room after the various operations on the eyes.

Before placing the patient into bed, or immediately thereafter, several hot-water bottles or bags are usually put into the bed so as to keep the patient warm. These are especially required where some degree of shock is present. Great care should be taken, however, not to burn the patient, and it is advisable to place the hot-water bags between two blankets. I cannot but reprobate careless and indiscriminate use of hot-water bags, as they are liable to endanger the patient's condition, or at least prolong convalescence. This was well illustrated by one of my patients, who was operated upon for a fissure *in ano*, and was burned on the foot, which took three weeks to heal, thus prolonging his convales-

cence and adding undue pain. One of the advantages of the application of heat is the diaphoresis which it induces.

The position of the patient is very important, and must be varied in accordance with the operation performed. Not less important than this is rest of the wounded part. After operations on the head, neck, and chest, elevation of the upper part of the body is preferred, unless there may be some contra-indication thereto. After intubation the head should be lowered so as to prevent an ever possible "Schluckpneumonie," one of the most dangerous complications which may arise after this operation. After operations on the spine, the patient may have to be placed into an extension apparatus. If the dorsal surface is the seat of operation, the patient should lie on either side. After operations on the side of the body, the intact side is to be chosen to rest upon. After laparotomies or operations on the inguinal regions or perineum, the patients will be most comfortable in the dorsal position. They may be made more so by fixing their thighs and placing a folded pillow under the knees. The lower extremities are usually elevated on pillows or sand-bags. After these operations the patient will very often complain of the weight of the bed-clothes, and it is advisable to make a wire cradle which will keep the covers from pressing on the operated limb. After operations on joints, splints will add considerable comfort. After amputation of the breast it is advisable to fix the upper extremity to the chest, and after operations on the upper extremity, the operated limb is carried in a sling unless some contra-indication may arise; for instance, after a plastic operation on the flexor side of the elbow to remedy a contraction caused by a burn. To prevent motion the extremities should be supported by splints or sand-bags. Patients should be forbidden to move without assistance. After operations on the perineum it is advisable to pin a towel around the knees to prevent unnecessary motion and breaking open of the wound.

I have already alluded to bed-sores, a complication liable to occur during a prolonged decubitus. The position of the patient should be frequently changed where this is permissible. Prophylaxis here is very important, and if the nurse is competent this painful complication will rarely require treatment. It is advisable to rub the parts upon which the patient rests with alcohol, and here I wish to mention the fact that daily sponging of the entire body with warm water and then with alcohol will greatly add to the patient's comfort. Should a suspicious spot of redness present, we can remove the pressure from the affected part by using air-cushions or a water-bed. We should prevent the folds of the linen pressing upon the patient. At every call it is important to look for the presence of bed-sores; should they appear despite all care, dry dressings are preferable to moist. Oxide of zinc in powder or ointment is one of the most valuable remedies. Acetate of aluminum has also a very beneficial effect. At times considerable loss of substance is found, giving rise to a very foul odor. In these cases a charcoal poultice acts remarkably well.

Before leaving the subject of position, it will be proper to mention one other complication which may follow a prolonged recumbent position. I

refer to hypostatic pneumonia, which is especially liable to occur in feeble, old patients. Just as soon as feasible, these patients should be permitted to sit up.

The pulse and temperature should be taken three or four times a day, and any abnormality carefully noted.

One of the most important points of post-operative treatment is feeding, and this requires a considerable amount of attention. It varies according to the operation, and requires special care after laparotomies and operations on the gastro intestinal tract. It will hardly be out of place here to consider vomiting, one of the most frequent symptoms following anesthesia. This is a very disagreeable and at times obstinate sequel to anesthesia. The best remedy for its relief is absolute rest of the stomach. We should keep it empty as long as this symptom continues. At times, however, it may not yield to this simple measure, and we will have to resort to various remedies. I found the application of a mustard plaster to the epigastrium a good prophylactic in some cases. Cocaine in small doses is spoken of as a valuable drug. We should not lose sight of the fact, however, that this may be a symptom of beginning peritonitis, especially after laparotomies or herniotomies. It may also indicate intestinal obstruction caused by the operation or the persistence of a previously-existing obstruction, especially if of a stercoraceous character.

As soon as the patient returns to consciousness, thirst will be complained of as a very distressing symptom, and it will be more so after laparotomies and frequent vomiting. Patients usually crave a drink of water, and the more they get the more they want. Cracked ice is given by some, but this only gives temporary relief. Very soon the stomach fills up, absorption is not active, and vomiting is renewed. Hot water in very small quantities is very much better, but even this should be kept out of the stomach as long as vomiting persists. A very good plan is to moisten the mouth and tongue with a piece of wet linen. Where thirst is very great, an enema of a hot saline solution will very often relieve the patient.

After minor operations, fluid diet may be allowed the day after, and, after the bowels have moved, the patient may return to the previous diet. After more extensive operations it may be necessary to give fluid diet for four or five days, then change to semi-solids, and gradually return to the former diet. After laparotomies, feeding will require most of our attention the first few days. Our method in the hospital was to give a nutrient enema two hours after the operation. This consisted of 2 dr. of beef-juice and about 4 oz. of peptonized milk. This was given with a hard rubber syringe, and repeated every four hours for two days. If stimulation was necessary ½ oz. of whiskey was added. If the temperature rose above 102° F., quinine (5 gr.) was rubbed up with the white of an egg and added to the rest. This was repeated every eight hours until the temperature fell or symptoms of cinchonism appeared. If the rectum was irritable or the pain intolerable, ten drops of the deodorized tincture of opium were given with the enema. For the first thirty-six to forty-eight hours small quantities of Vichy or hot water were given to allay thirst. At the end of that time teaspoonful doses of peptonized milk

were cautiously administered, and, if the stomach retained it, the quantity was gradually increased until at the end of the fourth or fifth day, when fluid diet was ordered, with the addition of a soft-boiled egg. The rectum should be washed out before every third enema.

These enemata can be used after various operations if vomiting persists. They may be employed after operations on the gastro-intestinal tract. After these operations no feeding by the stomach should be allowed for the first four or five days, but the patient should be nourished *per rectum*. The same method must be followed after amputation of the tongue and operations on the jaws and larynx, or else the stomach tube may be resorted to. This must be well oiled and carefully introduced into the esophagus down to the stomach, the fluid nourishment being poured into its funnel-shaped extremity. This is to be repeated three to four times a day. After gastrostomies, nourishment may be poured in through the gastric fistula. After intubation the patient must be placed with the head lower than the rest of the body, and fluid in small quantities should be given; where this is difficult or insufficient, feeding through the nose must be resorted to. For this purpose a Nélaton catheter can be used with another tube attached to it. The catheter is introduced through the lower nasal fossa, down the esophagus to the stomach, and the fluid poured into a funnel attached to the tubing. Milk, beef-juice, peptonized milk, and other nutrient fluids can be so employed.

Strict attention must be paid to the bowels and bladder. We should look for a spontaneous evacuation of the bowels; but when this does not occur, cathartics must be resorted to. The best method is to give small doses of salines at the end of forty-eight hours, and if necessary this should be followed by an enema. Our plan with laparotomy patients was to give a small dose of Epsom salts at the end of the first forty-eight hours, then an enema of sweet oil, followed, if necessary, by a soap-suds enema. If that did not act, a high enema was given. If the patient rejects salines, compound licorice powder or castor oil may be used; but profuse depletion should be avoided. After the first movement the bowels should move every day. Spontaneous evacuation of the bowels after laparotomies or herniotomies is hailed favorably. After operations on the rectum the management of the bowels varies with different operators. Some move the bowels as early as the end of the first forty-eight hours by laxatives; others give opium to prevent the movement of the bowels for from five to eight days. The first plan seems to be better, for it prevents tearing open wounds by scybalous masses. After each movement the wounded parts should be thoroughly cleansed. This should also be remembered after perineorrhaphies.

A few words regarding flatulence will hardly be out of place here. This often is a very distressing symptom, and requires prompt attention. The cardinal rule here is to evacuate the bowels before the intestines are distended. It will very often relieve the patient to pass a rectal tube, and if necessary it may be left in for some time. Turpentine given with an enema will very often relieve the patient. Spontaneous escape of flatus is a favorable indication after herniotomies or operations for other

forms of intestinal obstruction. Should flatulence appear forty-eight hours after laparotomies, it may presage the beginning of peritonitis.

Should spontaneous urination not occur eight hours after operation, a catheter must be resorted to. This will occur very often, especially after laparotomies and operations on the genito-urinary organs or rectum. It is hardly necessary to say that the strictest asepsis should be observed in catheterization. The catheter should be sterile and the meatus perfectly clean. Before introduction the catheter should not come into contact with any unclean object. Where it is necessary it should be repeated every eight hours. The patient should, however, be encouraged to empty the bladder without the aid of a catheter. Once catheterized the patient will expect it again. After some operations on the bladder or urethra a self-retaining catheter will have to be employed, but should not be left in longer than forty-eight hours, for it may give rise to pressure sores. The urine should be examined for abnormal constituents, and the quantity voided in twenty-four hours should also be noted. A green, smoky appearance of the urine will suggest carbolic-acid poisoning.

Now to briefly consider several general symptoms which may appear after operations: Vomiting and thirst have already been spoken of, and need no further comment.

Apathy may be due to feebleness or infection. Restlessness may point to the beginning of infection and secondary hæmorrhage, or precede delirium tremens.

For the first twenty-four to thirty-six hours the temperature very often will reach 100° to 102° F., and then return to normal. This is the so-called aseptic fever, and need provoke no alarm. If this temperature continues or rises, it may be due to infection and will indicate removal of the dressings. A chill or sudden rise of temperature should be looked upon with suspicion, and the various internal organs examined, because the temperature may be due to some disease such as pneumonia or tonsillitis. Should this not be the case, then it will be due to sepsis. A subnormal temperature might indicate shock or secondary hæmorrhage. Dyspnea may be due to secondary hæmorrhage.

A pulse of 100 merits suspicion; above 120 it may be due to infection. A rapid, feeble, or intermittent pulse points to shock or secondary hæmorrhage, which are entitled to some few remarks.

A patient suffering from shock should be carefully surrounded by hot-water bottles or bags. If much blood was lost during the operation, transfusion with a physiological saline solution is called for, and the foot of the bed elevated. Hypodermic injections of whisky, digitalis, strophanthus, or strychnine should frequently be given until reaction sets in. Strychnine has proved to be one of the most valuable drugs, given in doses of $\frac{1}{60}$ to $\frac{1}{30}$ gr. every quarter or half hour until the pulse improves in quality. Enemata of whisky, hot saline solution, or black coffee should also be tried, and a mustard plaster appled to the precordium.

In case secondary hæmorrhage occurs, the cardinal rule is to find the source of hæmorrhage. This will necessitate removal of dressings and re-opening the wound. If an artery or vein is found bleeding it should be tied. Where the hæmorrhage is parenchymatous the wound must be

tamponed with gauze. If it is impossible to tie a vessel, it will at times be necessary to leave hemostatic forceps in the wound for several hours. After the hæmorrhage has been arrested, the general anemia requires attention.

One of the most frequent symptoms after an operation is pain; at times, however, it may be entirely absent. The intensity and duration will vary after various operations; it will be more severe where the tissues are lacerated. Very often the pain will disappear in a few hours, but where it continues or begins a few days after the operation we should suspect infection, and in that case the pain will usually be of a pulsating character. It may be due to a superficial or deep stitch abscess, or sloughing of the wound edges. Where pain is intolerable, morphine hypodermically should be administered. At times the pain will be due to tight bandages, and will indicate their removal. It has frequently happened that a few hours after laparotomies the binder had to be loosened to make the patient more comfortable. Itching may be due to eczema from various causes.

Few remarks will be necessary concerning the skin. Redness of the face may be due to a high temperature; a pale skin may be due to loss of blood. Increasing paleness will indicate secondary hæmorrhage. Various forms of erythema may occur, and an eruption similar to that of scarlet should lead us to suspect iodoform-poisoning.

Let us now consider the various indications for change of dressings, remembering, however, that the less frequently this is done the more pleasant it will be for the patient. The indications are as follows:

1. The removal of stitches.
2. The removal of drainage-tubes.
3. Saturation of dressings by an abundant discharge.
4. Soiling of dressings by feces, urine, or vomited matter.
5. The disturbance of the dressing by a restless patient.
6. Pain if it is due to pressure, and especially if of a pulsating character.
7. The occurrence of secondary hæmorrhage.
8. Fever if it points to some trouble in the wound.

In a case where none of the above indications are present the first dressing should not be disturbed, for each change of dressing will cause the patient some degree of pain and unnecessary discomfort; nor should we lose sight of the fact that it exposes to the dangers of infection, which should always be guarded against.

In changing the dressing it is absolutely necessary to observe strict antisepsis and asepsis. This is just as important as before or during the operation. I will therefore briefly describe the method which is to be employed in each case while the first dressing is removed. The parts to be dressed are to be surrounded with wet bichloride or sterilized towels, and chilling by unnecessary exposure is to be avoided. The hands should be thoroughly scrubbed and washed with soap and hot water and immersed in bichloride solution. The nurse should remove the bandages and external layers of the dressings. The internal layers should be removed by the physician himself with the aid of sterilized thumb forceps.

Even in cases where suppuration is present this precaution is necessary to avoid the introduction of more virulent germs than those which cause the suppuration. The instruments which will be necessary for any dressing are: Thumb forceps and a pair of scissors. The instruments should be boiled and then placed into a 5-per-cent. carbolic-acid solution. All dressings which might be needed should be prepared, such as sterilized cotton or gauze sponges, sterilized, bichloride, and iodoform gauze.

Where no complications occur after an operation, and primary union is the result, our first indication for changing the dressing will be the removal of stitches. This will usually be between the fifth and eighth day, although in some cases, such as plastic operations on the face, it may be on the third or fourth day.

After laparotomies we remove the superficial sutures on the seventh day and the rest on the tenth. Some precautions are necessary in removing sutures; the method is the following: If separation of the edges is feared, the superficial sutures should be removed, leaving the deeper ones. The ends of the stitch are drawn up with the aid of thumb forceps, thus lifting up the knot. The open blades of scissors, pressing down the skin, should now include one strand as it dips into the skin. This will expose a part which was buried and is clean; this is to be cut. After cutting through it should be drawn across the incision, and not away from it, for this might cause separation of the edges. This method will also prevent secondary infection of the stitch canal and abscess-formation. Catgut sutures need not be removed, for their buried portions will be absorbed, and the exposed parts need only to be lifted up from the skin. After the stitches have been removed the wound is carefully washed with a bichloride solution, then a piece of sterilized or bichloride gauze and cotton is applied, to be held in place by a bandage. The next dressing is to be applied in three or four days. Undue manipulation is a useless interference.

A few remarks about adhesive-plaster strips used after laparotomies will hardly be out of place here. The frequent removal of plaster will cause painful excoriation and irritation of the skin. It is therefore a good plan at the first and subsequent dressings not to remove the plaster, but to cut through it in the middle and separate it from the underlying gauze. This will leave it attached to the skin, and after reapplication of the gauze the ends can be brought together with safety-pins. Thus a great deal of discomfort, caused by pulling off the plaster, is very easily avoided.

Before leaving this subject I wish to mention two conditions which may occur in connection with sutures. These are superficial or deep abscesses of the stitch canals and the cutting through of sutures. We will at times notice, especially where the edges of a wound are brought together under great tension, that the sutures are cutting through the tissues; there is only one rule which is applicable in these cases, and that is to remove every one of these offending sutures at once. Infected silk or catgut, or any suture material which has not been thoroughly sterilized, will give rise to an abscess of the stitch canal. These abscesses may be superficial or deep; where buried sutures were employed the abscess will

be a deep one, and it may give rise to considerable pain and severe constitutional symptoms, such as high temperature, headache, and loss of appetite. In superficial abscesses these symptoms may be absent, because the pus usually escapes at the point where the suture enters the skin; should this not be the case, then we will observe characteristic redness and tenderness around the stitch canal. In these cases there is only one thing to do, and that is to remove every one of the suppurating sutures, because they are of no further use, but, on the contrary, are a source of irritation. In superficial abscesses this will often suffice to stop the suppuration, and a dry dressing should be applied, unless severe inflammatory reaction be present, which will do better under a moist dressing. This should be changed every two or three days. A deep abscess will give rise to considerable infiltration and edema, and a fluctuating spot will surely point to suppuration. If the pus is still confined, the wound is to be bluntly separated or the fluctuating mass incised. After this the treatment is that of any abscess—irrigation and drainage by a narrow strip of iodoform gauze and the application of a moist dressing until the cavity is healed. Dressing should be changed every twenty-four or forty-eight hours.

Let us now turn our attention to wounds which are drained. A wound may be drained by a glass or rubber tube or by iodoform gauze. Change of dressing in these cases will be indicated by saturation of the various layers of the dressing, and it may be necessary to do it every half-hour, or in some cases only the fourth or fifth day after the operation. It is very difficult to lay down a rule which will suit every case, and we must study each case for itself and act according to the indications as they arise in any individual patient. If secretion is very scanty the first change may not be necessary for six or seven days. Here again strict antisepsis is of prime importance, and the various details are to be carried out as described above. Where gauze is used it can be pulled out entirely or only partly, but in the latter case it must be shortened. Where it has been entirely removed a shorter piece is to be replaced and the various other parts of the dressing applied. This is repeated in three or four days until the cavity is filled by granulations. If part of the wound was closed by sutures and it is found united, the stitches should be removed, leaving only those which are near the drain.

Where a large, tortuous wound is drained, and the discharge is very profuse, the dressing will have to be changed just as soon as it is saturated; this may be in an hour or two, or the day after the operation. The gauze drain, if such is used, is withdrawn with thumb forceps and shortened. This is repeated at short intervals until the entire wound is closed. If some of the discharge remained in the cavity after the removal of the gauze the wound may be carefully irrigated; but routine irrigation of every wound cavity is to be condemned, because it may break open adhesions formed by granulating surfaces. Should a large amount of discharge be expected, a large quantity of gauze must be applied over the wound. A rubber drain is to be shortened at every dressing and dispensed with as soon as the discharge becomes scanty. If a glass drain is used after laparotomies for pelvic disease it will require

considerable attention during the first twenty-four hours. The tube may have to be cleaned every fifteen to thirty minutes, but the intervals for cleaning will be prolonged as the discharge diminishes. For cleaning, a sterilized, long-nozzled syringe will be necessary, and here strict antisepsis is of the most vital importance, for the reverse may lead to general infection or a localized abscess with all its dangers. Every time the tube is cleaned it should be moved around to prevent the tissue from adhering to the openings in the glass. After the tube is removed, the track left by it should be closed by a previously inserted suture or with the aid of adhesive plaster strips.

At times it will be impossible to completely cover a loss of substance and an open wound surface will be left for our after-treatment. If no indication is present before, the first change of dressing should occur on the fourth or fifth day. Iodoform or sterilized gauze is to be applied and repeated every two or three days. As soon as granulation and cicatrization from the edges are well under way a zinc-oxide or other simple ointment can be applied. Strapping with adhesive plaster will act remarkably well. Should the course of healing not be quite so uneventful the various remedies used in the treatment of ulcers may be resorted to.

Before taking up the consideration of several complications which may occur in a wound after operation, I wish to briefly describe the local treatment after operations on the cervix and perineum. This resolves itself into rest and cleanliness. In the hospital we never packed the vagina after trachelorrhaphies or amputations of the cervix. The vagina was douched every day with boric-acid or bichloride-of-mercury solution. The stitches were usually removed about two or three weeks after the operation, unless perineorrhaphy was done at the same time; in that case the stitches were not removed until four weeks after the operation for fear that, if a speculum were introduced before that, it might break open the wound.

After perineorrhaphies no dressing whatever was used, but the perineum was carefully cleaned with bichloride solution every time the patient urinated or the bowels moved. Two days after the operation the vagina was douched every day with boracic acid or bichloride-of-mercury (1 : 6000) solution, the nozzle being carefully introduced along the anterior wall of the vagina. Constipation should be avoided, for it may do a great deal of harm by producing tension on the perineum. As we have almost always used catgut for perineorrhaphies we had no sutures to remove.

After amputations or plastic operations, especially if the sutures are very tight, necrosis of the wound margins will result. This is due to insufficient nutrition and will frequently occur in diabetics or patients with atheromatous blood-vessels. Sutures should be dispensed with, and if a line of demarcation is present the necrotic parts should be removed. If the reverse is found, iodoform gauze or powder and a moist dressing is to be applied and changed every one or two days.

Should a patient complain of itching or burning we will most probably find eczema around the seat of the operation. This may be caused by

maceration of the skin by retained secretions, the various antiseptics, and especially iodoform. Remove the cause and apply vaseline and dry sterilized gauze. If vesicles are present zinc oxide with starch or bismuth is to be used.

It is far beyond the scope of my present undertaking to go into the treatment of the various complications caused by pyogenic infection, and I will therefore close by saying that an operation may be followed by the various types of sepsis from the mildest to the most severe.—*American Medico-Surgical Bulletin.*

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SURGICAL ITEMS.

Habitual immunity from infection creates an operative confidence that may lead to a neglect to give full weight to such warnings or contra-indications as might be found in the probable severity of the operation, or in the reduction of the patient's vitality, especially in malignant disease.—*Stimson.*

All along the lines in surgery a conservative trend is apparent. We are now sifting the gems from the sand we have shoveled in past years, and separating the true from the false doctrines of modern surgery. The most precious metals are, in mining, found oft mixed with many that are dross, and no true progress is ever made in life without mistakes along the way. The day of extreme radicalism is passing fast; but, had it never dawned, the sunlight of to-day's conservatism would never have shown through Ignorance's sable cloud.—*Jabez Jackson.*

Local treatment of carcinoma is useless, although in cases of doubt—as when there is ulceration or fissure—I employ a favorite ointment having the following composition:

℞ Balsam, Peruviani
Unguent, Hydrargyri Nitratis..ää ℥i.
Petrolati..... ℥i.
M.

And if healing does not take place in two weeks, I operate at once. Carcinoma never heals in this way.—*J. H. Hearn.*

Immediate operation is indicated whenever the onset of a case of appendicitis is marked by both suddenness and severity; whenever, during even a mild attack, the symptoms at the end of forty-eight hours are unrelieved or are growing worse; whenever, in cases seen later, a firm, slowly forming, well-defined mass is to be felt in the right iliac fossa; whenever, at any time, a sudden increase in the acuteness of the pain and a rapid diffusion of tenderness occur; whenever there is good reason for believing the appendix-infection to be tubercular in character; whenever attacks of any type have been numerous, or are increasing in either number or gravity, or have unfitted the patient for work or activity, or have caused local symptoms which are permanent and persistent, or have at any time put the patient's life in great danger.—*J. W. White.*

MEDICINE.

IN CHARGE OF

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THE BRONCHITIS-TENT, THE HOT PACK, AND THE HOT FOOT-BATH.†

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GENTLEMEN: I propose to devote the hour to day to the consideration and demonstration of the employment of several remedial measures other than medicines; and I would ask your careful attention, because one of the most important things which you can learn as medical students is the necessity of giving as little medicine as possible for the production of the cure you are seeking to bring about. I have often told you that medicine should be used by physicians as ammunition is used by soldiers, namely, only when necessity requires, and then with a very definite idea of exactly what is to be accomplished.

The first remedial agent to which I wish to call your attention is the so-called bronchitis-tent, an apparatus which can be readily improvised in any household, and which will give your patient great comfort in many conditions in which the respiratory passages are dry or in an irritated condition. It will prove useful in the treatment of ordinary spasmodic croup dependent upon a catarrhal condition of the child's larynx, which may be exacerbated by the fact that the child sleeps in a room heated by means of a furnace, the hot air of which is not only abnormally dry, but often laden with dust. It will prove of value in the treatment of persons who have been exposed to irritating fumes or gases, and who, as the result, are suffering from inflammation of the respiratory passages. In the early stages of bronchitis in children and adults it will do much towards modifying the severity of the cough and the inflammation in the bronchial tubes, and in catarrhal and croupous pneumonia and whooping-cough it will in many instances prove an invaluable aid to the other measures which you will naturally institute.

The bronchitis-tent can be hurriedly improvised by tying to each corner of the child's cot an ordinary broomstick, the broom end resting upon the floor, and drawing over this frame one large sheet, or two small ones basted together in such a way that the canopy falls over the broomsticks and down at the sides of the bed almost to the floor. In this way the

†Clinical lecture delivered at the Hospital of the Jefferson Medical College.

child lies in a little tent, the top of which is elevated two or three feet above its head, thereby giving it plenty of air-space. At the foot of the bed you now place an ordinary Arnold steam sterilizer, an apparatus with which many of you are familiar, and which I now show you. This can be used, as you well know, not only for the sterilization of milk for infant-feeding, but also for the sterilization of your instruments; and by having a small hole made in the lid to which is soldered a pipe running off at an angle of 45 degrees, you are provided with an apparatus by which you can also develop and distribute steam in any place and in any direction you desire. A very small alcohol-lamp serves to disengage a large amount of steam from this apparatus, because only a small amount of water has to be heated at a time, the large pan which is superimposed upon the copper bottom containing the boiling water acting as a reservoir which continually provides a fresh supply of water, so fresh water need only be poured into the apparatus at intervals of several hours. The end of the pipe attached to this sterilizer is now made to project under the sheet forming the tent, and in a very short time the child is surrounded by an atmosphere which on the one hand is not so heavily laden with steam as to alarm it, and yet on the other hand is so warm and moist and balmy as to very quickly soothe its irritated mucous membranes. The child can sometimes be kept in this tent for a number of days with great advantage, and if well enough can be allowed to have its toys, and even its little friends may visit it. By the use of a little ingenuity in the way of substituting flags for sheets, you can very frequently not only succeed in making your patient happy in his confinement in the tent, but the envy of all the other children in the family.

This same steam-producing apparatus can be employed for the breaking up of forming diseases, particularly those due to cold, as it practically provides a home-made Russian bath. The patient, sitting upon an ordinary wooden chair, is stripped, and then covered with a heavy blanket, which is tightly pinned about his throat. The sterilizer and alcohol-lamp are then placed at a little distance to one side, and the tip of the tube from the sterilizer is so arranged that it discharges its steam underneath the blanket surrounding the patient. In a very short time the patient will break out into a profuse perspiration, which will often be sufficient to relieve him of his forming cold by overcoming internal congestion. This relief may be emphasized if at the time of the seance is begun a little sweet spirit of nitre be given in a hot lemonade.

This method is also useful for the purpose of stimulating the glands of the skin and relieving the kidneys in cases of chronic renal diseases in which it is feared that uremic symptoms may develop, or in which mild uremic symptoms have already commenced. Care should be taken in all cases, however, that the patient breaks out into a sweat, for if he does not do so he will be very apt to suffer from heat-stroke, or be much oppressed by the heat. If the heart has undergone marked degenerative changes as the result of the renal disease, increased caution should be exercised, lest the exposure to the hot bath produce cardiac failure. If for any reason the patient is unable to sit upon a chair, he may lie in bed, and by means of a few barrel-hoops cut in two the covers may be slight-

ly elevated above his bed, sufficiently to permit the entrance of the steam, but not high enough to cause him to become chilled by the entrance of the air of the room. In this way the patient gets almost as satisfactory a sweat as in a chair. Similar measures may also be resorted to for overcoming the fall of bodily temperature, which is associated with the collapse occurring at the crisis of acute infectious diseases or following surgical operations or injuries.

You see, therefore, that by means of comparatively simple measures, and one single piece of apparatus which can be used for other useful purposes, you have provided for your patients a number of efficient therapeutic measures.

The hot pack is used for practically the same purposes as is the hot steam bath that I have just named, namely, for increasing the action of the skin and producing a sweat. But it is also of value in another condition, in which the results of its use are often extraordinary. I refer to the control, and even the cure, of chorea minor. As you are well aware, we commonly rely upon arsenic as a remedy above all others in this condition, but in those cases of severe chorea which persist during the night as well as the day the child is rapidly exhausted, not only by the movements but by the loss of sleep, and under these circumstances a fatal result is not rare. It is in these cases that the hot pack affords us the best results, for even while the child is still in the pack it will frequently fall into a restful and refreshing sleep, which marks the turning-point in its disease. Perhaps the hot pack not only does good by quieting reflex irritation, but also by aiding in the elimination of poisonous materials from the body, if, as is thought by some clinicians, chorea is dependent upon an infection. The method of using it is as follows: First, a moderately heavy blanket is dropped in a tub of very hot water. While it is becoming thoroughly soaked, a rubber sheet is placed upon the bed and covered by a dry blanket. The child is now stripped and laid upon this blanket, and the blanket which has been soaking in the tub is then wrung out as dry as possible and wrapped around the child up to its neck, its arms being folded across its chest. This must be done with caution, for two reasons: on the one hand, the application of too hot a blanket will scald the child, while on the other hand if the water has not been hot enough, or the blanket is much exposed to the air while being wrung out, it will become cooled to such an extent as to lose all its efficiency. Care should be taken that the child's temperature does not rise above 100° while in this hot pack, and such a rise may be prevented in part by allowing it to sip a little cold water from time to time, an act which will also reflexly increase the excretion from the skin by the presence of cold in the stomach. After the pack has been used for twenty minutes to an hour, or as long as the blanket remains hot, the child is quickly taken out of it, rubbed dry, laid in dry blankets, and allowed to go to sleep.

The hot foot-bath is familiar to you all, particularly when to the water has been added some mustard to increase its counter-irritant effect. You have probably seen it employed very many times for the purpose of breaking up severe colds, the foot-bath being given the last thing before the patient actually gets into bed for the night, and in association with

hot and stimulating drinks. I want to call your attention to one other use of this hot foot-bath, namely, its employment by nervous and overworked persons who on going to bed suffer from insomnia and cold feet, the insomnia being due to the cerebral hyperemia following excessive use of the brain. In these cases it is far better to allow of sleep by the use of the hot foot-bath and mental rest than it is to run the danger of producing the morphine or chloral habit in your patient, by prescribing either one of these drugs as a hypnotic.—*Therap. Gaz.*

THE URINE OF TWENTY-FOUR HOURS.

For a thorough and systematic examination of urine it is necessary to obtain all the urine a patient voids in twenty-four hours. Although I have in my lectures repeatedly described the method by which the urine of twenty-four hours is collected and measured, it may not be amiss to go over the ground once more. In certain diseases, notably cardiac and renal, and especially renal, the night urine approximates in quantity that of the day, or may even exceed it. On that account it is well to separate the night urine from the day. While it is possible that occasionally in health the night urine may approximate or exceed the day, *persistent excess of night urine over day means disease, and often Bright's disease.* What is the night urine? By night urine we mean the urine secreted during the sleeping hours, i.e., from the time a person goes to bed at night until he is dressed the next day, supposing always that he voids urine before dressing himself the next day. The urine which a patient voids on rising in the morning is properly night urine, since it has been collected in his bladder during the sleeping hours. All other urine is day urine. The day urine in health is three *or more* times as much as the night urine. In Bright's disease the quanity of night urine is often equal to the day urine, sometimes more than the day, occasionally much more. In severe cases of Bright's disease a patient may void nearly all the twenty-four hours' urine during the sleeping hours. In diabetes it is not uncommon to find the night urine approach the day in quantity, but great excess of night over day is rarely, if ever, observed.

In order to collect the urine of twenty-four hours for examination the patient should *always* begin in the morning on an empty bladder, i.e., after breakfast. If he were to begin at night the collection would end the next night and the urine could not be, as a rule, examined till the next day, hence would be twelve hours older than if it were examined as soon as the twenty-four hours were up. If the patient begins to collect in the morning the twenty-four hours are up the next morning, and the physician is ready to examine it. The patient, then, begins to collect the urine after breakfast in the morning, being careful to void urine just *before* he goes to stool, thus avoiding any considerable loss while at stool. All that he voids during the day and evening, including what he voids *before* going to bed, should be received in a bottle labeled "day urine."

Extract from a paper by Dr. Clifford Mitchell, in *The Medical Current.*

The chamber-pot is not to be used as a receptacle, but the urine should be voided directly into a wide-mouthed bottle and poured into the "day" bottle afterwards through a glass funnel. As a rule, two one-quart bottles will hold the twenty-four hours' urine, except in cases of interstitial nephritis (granular contracting kidney), and diabetes. The bottles used for collection, from time to time, should be tightly corked.

If the patient rises at night, what he voids during the night should be received in the bottle labelled "night," and, together with it, that which he voids on rising in the morning. If he does not rise at night, that which he voids on rising in the morning represents the total night urine.

The physician, then, has the urine brought him in two bottles, "day" and "night," separately. He measures each and records the quantity. If he finds the quantity of night urine equal to or more than the day, his suspicions should be aroused in the direction of Bright's disease or diabetes. If the day urine is twice the night, nothing serious is necessarily indicated, but the urine may not be normal. If the day urine is three or four times the night, with the twenty-four hours' total urine normal, the chances are that the kidneys are in a healthy condition. Nevertheless, I have known cases of albuminuria in which the day urine was, *at times*, three or four times the night.

It is understood that during the collection of the twenty-four hours' urine the patient is not to make a "tank" of himself in any way, whether with beer, mineral waters, or milk, nor is he, unless positively necessary, to take drugs or submit to surgical operations during the period. He is to eat and drink and do, during the twenty-four hours' collection, that which he has been in the habit of eating and drinking and doing when sober, sane, and sensible.

Having measured and noted the quantity of day urine and that of night, the physician adds up the volumes obtained to get the total twenty-four hours' quantity and mixes the contents of the two bottles thoroughly, so as to be ready for quantitative chemical analysis of the whole twenty-four hours' urine. It is wise, however, to test day and night separately for albumen and sugar before mixing them together.

What should be the total twenty-four hours' quantity in health? The normal amount of urine voided by the healthy male adult is from forty-five to fifty fluid ounces, by the female thirty-five to forty. In the metric system the cubic centimeter is used as a unit of volume. It is said, then, that the healthy male adult voids from 1,350 to 1,500 cubic centimeters, the healthy female, 1,050 to 1,200.

The normal quantity voided by children is difficult to determine. It may be said in a general way that, until three years of age, children void about ten fluid ounces (300 cubic centimeters). From three years up it increases so that from eight to twelve, twenty to thirty fluid ounces daily are voided. At fifteen the quantity begins to approach the adult figures.

After the physician has computed the quantity of fluid ounces passed in twenty-four hours, he should compare it with normal average standards, so as to see whether his patient is voiding much more or much less than normal. Any quantity half or less the normal standard, or twice or more the normal, is almost sure to indicate disease.

Is any examination of urine necessary except that of the twenty-four hours' quantity? By all means. The object of collecting the twenty-four hours' urine is to compare day with night, to compare the total with normal average standards, to observe the physical characteristics, and to make quantitative estimates of the solids as urea, phosphoric acid, uric acid, together with albumen and sugar, if either of the latter is present In addition to the twenty-four hours' urine we must have a sample of urine *freshly voided*, for purposes of microscopical examination. Women should take cleansing vaginal injection before passing urine for such microscopical examination. The reason of the latter precaution is that otherwise vaginal fluids may be mixed with the urine, and the sediment of the urine be largely composed of matters from the vagina. The freshly voided urine is set aside, with a pinch of salicylic acid added to it, for six hours at least, until the sediment has settled. If the physician own a centrifugal machine the freshly voided urine is placed at once in the tubes and the sediment collected by centrifugation. Whatever is thus found is reasonably certain to have existed in the urine while in the body.

ARSENIC IN GASTRALGIA.

Further observation in practice has confirmed my favorable opinion of the curative efficacy of arsenic in the various painful neuroses included under the name gastralgia. I have already laid before the profession my earlier experience in this subject. Romberg's well-known description of gastralgia is classical. He distinguished two forms of the malady, gastrodynia neuralgica, which he held to be hyperesthesia of the gastric branches of the pneumogastric nerve, and neuralgia celiaca, which he attributed to hyperesthesia of the solar plexus. Clinical experience confirms the views of Niemeyer and of Henoch, that this distinction is difficult and of doubtful utility in practice. Gastralgic affections, severe and slight, are rare in hospital practice, and frequent among private patients, especially among those of nervous temperament. I need scarcely observe that for obvious reasons the diagnosis of gastralgia is one which should neither be lightly made nor negligently maintained. But pain arising in the stomach when the organ is empty, and relieved by the ingestion of food, is almost diagnostic, as the late Dr. Wilson Fox taught, of its nervous nature and origin. With due regard to the causal concomitants and antecedents of gastralgia, arsenic cures the disease. It is best to give the drug in pillular form. I exhibit a twenty-fourth of a grain of arsenous acid made into a pill, with two or three grains of some tonic vegetable extract, such as gentian, three times daily, half-way between meals. Scarcely any other medicinal treatment is needed in cases of moderate severity, and the use of the remedy should be continued for some weeks. In severer cases I use counter-irritation to the epigastrium of duly proportional activity. I have usually found a full and varied dietary suit gastralgic patients far better than a restricted "dyspeptic" regimen. It is in such cases that Trousseau's maxim is true—that we

should know what a patient does eat before we advise him upon what he may feed.—*Dr. Sawyer in Lancet, July 7th, 1897.*

The profession owes a debt of gratitude to Dr. Clifford Albutt for his suggestion made many years ago, of arsenic in doses increased to the point of tolerance in the treatment of gastralgia. From eight to twenty drops of Fowler's solution will often be required to obtain the best results. Of course, such doses require close watching, but their effect is at times most startling and most satisfactory.

N. A. P.

THE TREATMENT OF DELIRIUM TREMENS BY CHLORIDE OF AMMONIUM.

BY GILBERT G. COTTAM, M.D., ROCK RAPIDS, IOWA.

It is an almost universal experience that the accepted routine treatment of delirium tremens is unsatisfactory when applied at the bedside. In part this is due to the effect of alcohol itself, and perhaps more largely to the fact that inebriates habitually indulge largely in morphine, chloral, bromide, etc. In this way a tolerance for sedatives and hypnotics is established which renders these agents quite inoperative when exhibited for the purpose of subduing the delirium.

In 1893, during my hospital interneship, I had abundant opportunity of demonstrating the truth of the foregoing proposition. While casting about for a substitute my attention was drawn to the chloride of ammonium, which, in moderate doses, from 10 to 30 grains, will effectually overcome ordinary alcoholic intoxication in a short time. Its properties, stimulant and eliminative, led me to believe that it could be used with good effect in larger doses in the more pronounced symptoms of alcoholism.

A suitable case in which to test the remedy did not present itself until last year. I was called late one night to see a laboring man who had been in the habit of drinking intermittently for the previous ten years. In 1891 he was treated according to the Keeley method, which "cure" was followed by a speedy relapse. Three days before coming under observation he began drinking heavily, which culminated in an attack of acute delirium for which I was consulted. He was found in bed, dressed, and had the usual reptile hallucinations. The pulse was somewhat rapid, full and strong, and quite typical of alcoholism. He was very restless, moving incessantly, at times starting from bed and making efforts to ascend the sides of the room. He would frequently have fallen had he not been restrained. The history and symptoms were those of a typical case of delirium tremens.

Having some knowledge of the patient and his tolerance of drugs, I began by administering one grain of morphine hypodermically. This without the slightest effect. Several hours after the administration of the morphine, and after the symptoms had all become aggravated, he was given one drachm of chloride of ammonium. This was promptly vomited. After waiting a short time another was given, which was re-

tained. It acted quickly and favorably. In fifteen minutes the hallucinations of snakes and lizards had disappeared, and he had become quite rational. In forty minutes he was asleep, and it was not thought necessary to continue the administration of the drug.

It was afterwards ascertained that this was the patient's third attack. He had used morphine often, and in large doses, for the relief of headache and insomnia following over-indulgence in alcohol.

The above case may, of course, have been exceptional in the favorable action exercised by the ammonium salt on the alcoholic delirium. It is improper to draw conclusions from a single case, but I offer these notes with the hope that they will encourage those in a position to do so to try the drug in large doses in the treatment of this troublesome affection.—*Medicine.*

NEPHRITIS IN CHILDREN.

Suley (*Medical News*) states that of all the diseases of childhood, nephritis demands the most prompt, vigorous, intelligent and careful treatment. Three essential rules in the treatment must be recognized, viz,: 1. Relieve the kidneys of the extra work of carrying the transuded serum from the tissues, as well as the retained products of tissue metamorphosis usually excreted by the kidneys and retained because of their damaged state. 2. Endeavor, by intelligent medication and diet, to prevent further damage to the diseased organs. 3. Restore the kidney to its normal condition.

In meeting the first indication resort must be had to the compensatory emunctories, the skin and the bowels, and at no age can we rely upon them more than during early life. Calomel is indispensable; it stimulates the liver to action, and by the increased flow of bile the contents of the bowel are rendered more fluid and the elements to be excreted more soluble in the blood, thus proving less irritating to the kidneys. The salines are of great service as hydragogues.

Hot-air baths must be relied upon for their diaphoretic action, as pilocarpine is not to be depended upon. The best method of applying heat is by using an apparatus which will supply hot air under the bedclothes. This can be used continuously, as it does not cause prostration. Liquor ammonii acetatis is an efficient remedy in the stage of convalescence, acting beneficially upon the kidneys and the skin. The high tension in the arteries can be combated more efficiently by blood-letting than by other means, the beneficial effect of this measure being seen upon the pulse, the nervous system aud the kidneys.

A very valuable agent is water, given plain after filtration or boiling, as young children take carbonated waters with reluctance. Given *ad libitum*, or at regular intervals if the patient does not call for it, it acts as a diuretic, without causing any irritation. If refused by the mouth it acts as well as an enema if large doses are given.—*Therap. Gaz.*

NERVOUS DISEASES AND ELECTRO-THERAPEUTICS.

IN CHARGE OF

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ANIMAL EXTRACTS.

The following conclusions are taken from a lecture by Horatio C. Wood, M.D., LLD., Professor of Therapeutics in the University of Pennsylvania, which appears in the *University Medical Magazine*, Vol. 8, No. 7, on the subject of Animal Extracts. In hypertrophy of cicatricial tissues resembling keloid, possibly true keloid, thyroid extract has caused absorption of the hypertrophied and cicatricial tissues.

It has been used with success in simple goitre, in the goitre of Switzerland, before calcareous degeneration has taken place. It will bring about destruction and absorption of the overgrown tissues. In excessive obesity, with tendency to weakness and anemia, in which exercise and diet fail, it is found useful. Thyroid extract is sometimes useful in melancholia, but how it acts we do not know.

When thyroid extract is used freely in continuing doses it sometimes produces a series of phenomena constituting the so-called thyroidism. The most important of the symptoms are loss of weight, shortness of breath, and a weak and rapid pulse. In all cases in which the extract is being used freely and continuously, but especially in those cases in which the symptoms are not those of myxœdema, the patient should be weighed at least every two weeks, and any undue loss of weight or disturbance of circulation or respiration should be the immediate signal for the withdrawal of the remedy or a great reduction in dose.

The thyroid extract has been largely used in exophthalmic goitre, but here he is sure it does harm.

"I have used successfully in one case the extract of the supra-renal capsule for Addison's disease, and know of two or three other cases in which benefit was derived. Always see that a first-class veterinary surgeon gets the capsules himself from the beef. In the case cited I employed the glycerin extract in doses of ten to fifteen minims hypodermically."

The author does not believe in the use of extracts of bone-marrow or spleen in the treatment of leucocythemia.

In regard to the extract of bone-marrow in pernicious and other anemias he says: "All that can be said at present is that there is sufficient evidence to warrant the administration of the medullary glyceride in cases of severe anemia."

He does not believe at all in the use of cerebrine, cardine, or in the Brown-Sequard elixir of testicles.

In reference to cardine, etc., he says: "The only positive theory which could point toward these substances being of value in medicine is that every organ takes something out of the blood for itself, and thereby leaves the blood more pure and free from substances which are deleterious to other organs. There is no probability of truth in this theory."

As to bacterial toxins and antitoxins formed in the animal body, he does not believe in the use of agents of this class in the treatment of tuberculosis. As "this disease is not self-limited and there is never a sufficient production of antitoxins in a case of tuberculosis to arrest the growth of the tubercle bacillus, therefore it does not seem probable that we will ever get a tubercle antitoxin that will be successful."

In regard to the tetanus antitoxin he has had experience in but one case, and in this a fatal issue seemed to be contributed to by the use of the antitoxin. He quotes from Cattani, who does not believe that the antitoxin is of any use in cases in which the symptoms are severe enough for death to occur within the second or third day—that is, in the acute form of tetanus. In acute and chronic tetanus in which symptoms come on during eight or ten days, antitoxin has seemed to save life. It must not be forgotten that the chief value of the antitoxin is not in overcoming the constitutional action of the toxin, but in preventing the formation of the toxin by inhibiting the growth of the bacillus.

In regard to the diphtheria antitoxin he says: "I will agree with some in believing that the exact value of this treatment has not been thoroughly established. On the other hand, I am absolutely of the opinion that the value of this treatment has been sufficiently shown to require every conscientious physician to use antitoxin in diphtheria just as much as he would use quinine in malaria."

He states that the use of the streptococcus antitoxin for erysipelas and septic poisoning is in the earliest experimental stage, although favorable reports of its use are coming in.

NEUROSES FROM AUTO-INTOXICATION.—Dr. M. A. Bunce states (*Philadelphia Polyclinic*, April 11, 1896) that among the more common symptoms that might be attributed to peptone, ptomaine or leucomaine absorption are nerve depression, languor, drowsiness, vertigo, cephalalgia, nausea or vomiting, usually most marked during the acme of chyme absorption; dyspepsias, associated with pyrexia, vomiting, diarrhœa, headache and abdominal tenderness, which so closely simulate early typhoid fever. Among the dermic phenomena are urticaria, erythema, simple and multiform angio-neurotic œdema and general vaso-motor ataxia—the type possibly depending on idiosyncrasy, chronicity and the degree of irritation reflexed to the cutaneous vascular nerve mechanism. Neurasthenia and anæmia will at times point to the intestinal tract as the probable *fons et origo mali*. Nerve and muscular pains about the shoulders, especially the deltoid, pleurodynia, digital nerves of upper extremities, manifest as neurosis, anæsthesia or paræsthesia.

Cases of the above type frequently coexist with the lithæmic habit, though there are instances in which the gastro-intestinal disturbances

stand out so prominently to the exclusion of the more characteristic signs of lithæmia, i.e., urinary, vascular symptoms, etc., yet with symptoms that are common to both, namely, the mental depression, drowsiness, vertigo, headaches, neuritic pains and myalgias, the question frequently arises which symptoms are due to the absorption of the soluble toxins and which are the result of the gradual accumulation and circulation of unoxidized waste products and uric acid.

Lactic acid resulting from activity of the penicilium glaucum is said to be a muscle poison and to lessen the functional activity of the brain and cord. Its absorption and circulation may in part explain the pain and sopor usually present. The following is the course of treatment generally carried out: The necessary injunctions as to diet, more or less strict avoidance of the fats, sugars, starches, of the abuse of alcohol, tea, coffee; curtailing if necessary to milk, plain or pancreatized, the latter not to be continued for any length of time, administered in small quantities, at frequent intervals warmed, if in the cold state it increases the discomfort. As the condition improves, broiled minced meats, red or white fish, and the farinaceous foods are gradually added. As constipation with a yellow brown furred tongue and abeyance of the hepatic function are generally present, a preliminary mercurial purge is given. preferably the mild chloride, combined with powder ipecacuanha or sodium bicarbonate; sodium phosphate is then used for a varying period, followed by a tonic cathartic. To maintain the canal in as clean a condition as possible resort is had to antiseptics, the best being the phenol group. In the atonic gastric catarrhs with flabby, tooth-marked tongues there may be given such prescription as the following:

℞ Tincture nux vomica.....m. 15
Diluted hydrochloric acid or diluted nitro-hydrochloric acid.....m. 20
Essence pepsin.....fl. dr. ½
Tincture calumba sufficient to make....fl. dr. 2
M. S. One dessert spoonful before meals.

In the neurasthenic type with hypersecretion:

℞ Bismuth subgallate.....gr. 5
Salol.....gr. 2
Extract nux vomica.....gr. ⅛

Make in one capsule and take one half to one hour after eating. Strontium bromide may be used to advantage in the latter case, sodium and strontium salicylate when the muscles or nerve pains are marked. Knowing the value of potassium permanganate to neutralize, by oxidation, morphine and other vegetable alkaloids (many of which are metameric with the ptomains and leucomains that have been isolated) it was administered tentatively to advantage in kreatin-coated capsule from one-half to one and a half hours after eating, in the dose of 2 to 5 grains, guided by the tolerance of stomach.

In a case of *rheumatoid arthritis associated with exophthalmic goiter*, which has been under observation for not quite a year in the clinic of Dr. S. Solis Cohen, great improvement is taking place, which is apparent-

ly to be attributed to the use of extract of thymus gland, of which 5 grains of the solid preparation are given three times daily. There is still moderate exophthalmus, and the thyroid is still enlarged, though diminished from its previous size. The pain in the joints, however, which was the most distressing symptom, has entirely disappeared; and, while no demonstrable change has taken place in the articular lesions, the fingers are much more mobile, and there has been no extension of the morbid process. The tremor of the hands, the general nervousness and the tachycardia have all disappeared.

In another case of *exophthalmic goiter*, under treatment with thymus gland, in the same clinic, all the unpleasant subjective and objective symptoms have entirely disappeared, with the exception of the goiter, which has, however, been much diminished in size, being now less than one-third of its bulk at the commencement of treatment, it having been an unusually large one. The patient's complexion, which had resembled that of a case of Addison's disease, has been lightened in color, but is still abnormal, the hue, however, being rather greyish than bronze.

In demonstrating these cases to the class, Dr. Cohen mentioned two cases in private practice in which similar improvement had taken place, one of which had been seen in consultation with Professor Risley. On the other hand, in a case of simple goiter in private practice, neither thymus nor thyroid extract had been of the slightest benefit, and rheumatoid arthritis was beginning to develop. The liability to fallacy, from the fact that spontaneous recession of symptoms in exophthalmic goiter is not at all uncommon, was also pointed out; but the opinion was expressed that the coincidence of spontaneous recession in four cases, under observation at one time and under one treatment, and of which three had presented severe symptoms, could properly be set aside.

CONSCIOUSNESS IN EPILEPSY.—The following are the conclusions of a paper by Prof. E. Siemerling on "The Transitory Disturbances of Consciousness in Epileptics in their Forensic Relations," *Berliner Klin Wochenschr.*, Nos. 42 and 43, 1895:

1. In the epileptic psychoses a dream-like, altered condition of consciousness is probable, and not by any means a total or partial amnesia.

2. The most various transition forms occur between the different forms of so-called acute and chronic epileptic psychoses. Epileptic or epileptoid conditions and psychoses must alike be reckoned as symptoms of cerebral disease.

3. The transitory, dreamy states are characterized by the rapidly recurring, apparently orderly, indifferent, and inconspicuous manifestations, and by unusual, unexpected, often violent, acts.

4. There is no epileptic psychosis without epileptic or epileptoid antecedents. Epileptoid conditions are more frequent than is commonly supposed, especially vertiginous attacks.

5. With the lack of epileptic or epileptoid manifestations, all other symptoms, such as amnesia, similarity of the attacks, peculiarities of actions, sensory hallucinations, will serve to make the diagnosis of epilepsy most probable.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

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OBSERVATIONS ON THE SERUM REACTION IN TYPHOID FEVER AND EXPERIMENTAL CHOLERA BY THE DRIED BLOOD METHOD.

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(From the Labratories of the Board of Health of the Province of Quebec, and the Montreal General Hospital.)

RESULTS.

The following table shows the results in 143 cases which we have examined, and which were reported to us as cases of genuine or suspected typhoid. We have left out 8 cases where the sample was not received in proper condition for examination, owing to the directions not having been followed, and where no second sample was obtained for re-examination. Otherwise we have made no selection of the cases. It must be borne in mind that, in almost every case, the serum diagnosis was recorded without any knowledge of the case, except what was to be obtained from the examination of dried blood.

Table of Total Cases of Suspected Typhoid:

Positive results:		
Decisive on first examination	118	
Of these, complete reaction in 112; partial reaction in 6 (3 of these before the third day).		
Doubtful on first examination; decisive on second examination	5	
(Of these, 4 were first examined before sixth day).		
Total positive results		123
Negative results. Decisive:		
Cases proved by subsequent history to be something other than typhoid namely, meningitis, malaria, pneumonia, constipation, etc	14	
Negative results remaining in doubt:		
Mild cases of typhoid first examined during convalescence.	3	
Primary examination negative, clinical history, typhoid, no re-examination	2	
Severe fever of typhoid type, negative results, both by Widal and the dry method (examined three times)	1	
Total negative results in cases of possible typhoid		6
Total		143

From the above table it will be seen that the positive results were obtained in 123, or 95 per cent., of the 129 cases which there was serious reason to believe were true typhoid. If we exclude convalescent cases, and cases in which no re-examination was obtained, there remains only one case of severe fever strongly resembling typhoid, which did not react to the test made repeatedly under favorable conditions. In this case, in the re-examination, both the fresh serum and the dried blood were tested, and both gave negative, or at best indecisive, results. Including our hospital cases, and excluding those where the samples were not properly taken so as to leave only those where the examination was made under favorable conditions, we have a percentage of 99.4 per cent. of satisfactory or decisive results. We think, however, that 90 per cent. is as high an average as can reasonably be expected of this method for public health work.

RE-EXAMINATION IN CASES WHICH ALREADY HAD GIVEN A REACTION.

Seventy such examinations made in 55 cases gave sixty-nine positive and one negative result when examined during fever or early in the convalescence. The reaction was nearly always complete, and typical clumping occurred, but in a few cases slight motion persisted.

CONVALESCENT CASES.

These were difficult to follow up, owing to the nomadic tendency of the average hospital patient. In 17 cases examined after intervals of from three weeks to three months after their discharge, the action was present in 16 and absent in one. These observations are too few to make them of much statistical value. We have not yet found any patients presenting a reaction at a later period than one year. These blood samples were kindly obtained for us by Dr. J. Ewan.

PERIOD AT WHICH THE REACTION FIRST APPEARS.

As a rule it was well marked and prompt after the fifth day, but occasional cases were met with where it was very slow on the sixth or seventh day. After the first week it was very prompt in nearly all the cases, but varied in intensity at different periods during the course of the disease, and was more prompt in some cases than others.

In three cases the incomplete reaction mentioned above was obtained at the end of forty-eight hours from the apparent onset of the fever. The exact date of onset is a difficult matter to estimate in typhoid, but in one case the thermometer had shown absence of fever forty-eight hours before taking the sample. The case subsequently developed typical reaction and temperature. In these cases a provisional opinion was given that the case was probably typhoid, and this was justified by a subsequent appearance of the complete reaction. This point deserves further study as indicating that a probable diagnosis can be made earlier than has hitherto been supposed.

RELATION OF THE INTENSITY OF REACTION TO SEVERITY OF THE ATTACK.

No fixed relation appears to exist between these, but it is specially in the very mild cases of febricular type that a slow or partial reaction is

likely to be met with. Some cases, however, clinically classed as febricular, gave a very decided and complete serum reaction. In cases not giving the reaction it is often impossible, where the disease is very mild and convalescence very rapid, to tell whether a case was really one of typhoid. In such cases bacteriological examination of the stools by the Ellsner method for isolating typhoid bacilli should give valuable corroborative evidence. We regret exceedingly that a bacteriological examination of the stools was not made in the one case which appeared to be typhoid, and yet did not give the reaction. This was one of our earliest cases.

CONTROL CASES.

Examinations made in thirty-three cases of fever due to causes other than typhoid did not give reaction. These were cases where there was no history of previous typhoid, but examinations made of patients who had had typhoid two or more years before gave negative results. Besides these a number of control examinations were made of the blood of healthy persons and from bodies in the *post-mortem* room. Such gave negative results, but of these we have not kept an accurate record. Nothing in the control examinations has given us any ground for supposing that the reaction occurs apart from typhoid.

INFLUENCE OF DRYING UPON THE BLOOD.

Samples of blood kept dry in the ordinary air and temperature of the laboratory for sixty days still gave a good prompt reaction. Shorter periods, such as one or two days of drying, did not appear to have a material influence on the reaction. Apparently any injurious effect which may follow from drying is not so much due to the direct effects of desiccation on the specific substance as to the difficulty of obtaining the substance in solution afterwards. This has already been stated by Pfeiffer and Proskauer to be true of dried cholera serum, though no statement is made by them as to dried cholera blood.

REACTION FROM HORSES' BLOOD, ETC.

Jointly with Dr. W. H. Jamieson, one of us (J.) has studied the blood of a number of domestic animals, and can confirm the statement of Bordet, to the effect that the blood of the horse often produced a clumping and granular appearance in typhoid culture which we have not been able to distinguish from the effects of typhoid blood, except by the fact that the horses' blood produced a similar agglutinative effect on the cultures B. coli, which typhoid blood does not. There are some therapeutic possibilities for employment of horse serum in coli infection which we have not investigated. The only medico-legal application we have made of the reaction resulted in the restoration of harmony in what promised to be an awkward disagreement among medical witnesses in a case thought to be due to poisoning, but which presented post-typhoid lesions, a case which had been treated without any suspicion of typhoid having occurred to the attending physician. Of course under certain circumstances the presence or absence of the reaction might have great forensic importance in the examination of a blood stain.

EXPERIMENTAL PRODUCTION OF THE REACTION IN THE BLOOD OF ANIMALS.

We were relieved to find that it is easier to produce the serum reaction experimentally than one would suppose from the recent accurate experiments designed to produce complete immunisation. We have found that a single intraperitoneal dose of attenuated typhoid culture in the guinea-pig is sufficient to produce a perfect blood reaction without any serious detriment to the animal's health. This accords with the more recent statements of French authors that a complete reaction may exist with very slight immunity.

SERUM REACTION OF DRIED BLOOD IN EXPERIMENTAL CHOLERA.

These experiments were done in the Pathological Laboratory of McGill College, with the assistance of Mr. E. W. Hammond. We have found that the dried blood of animals experimentally inoculated with cholera culture gave the reaction typically after several days' drying. This should make the dry method applicable to cholera, in which disease Achard and Bensaude have recently shown that the reaction may be present even as early as the first day.

THE SERUM REACTION AS AN AID IN ISOLATING TYPHOID BACILLI FROM FÆCES, WATER, ETC.

Some preliminary experiments in the direction of straining off the clumped masses of typhoid bacilli obtained by adding typhoid serum to cultures in which when they were present together with the colon bacillus have been made, and have given us encouraging results. How far the power of separating mechanically in an hour or so most of the typhoid bacilli out of a mixed culture with B. coli may improve the existing state of our technique we cannot yet say.

We may mention that after adding typhoid serum to culture made from typhoid stools, a peculiar diffuse precipitation, attended by a clearing of the upper part of the fluid, was observed. In this way we are generally able to distinguish, out of a series of broth cultures made a few hours before, those from typhoid and those from normal fæces. A good deal seemed to depend upon the exact composition and reaction of the medium, as with some lots of bouillon we were unable to get this coarse reaction, and we are still unable to give directions whereby it can be obtained with certainty.

While Pfeiffer has undoubted claim to priority as to the description of all the essential features of the reaction, the recognition of its great value as a method of diagnosis and the introduction of a simple and accurate method are due to Widal, who first discovered that it was present early in cases of typhoid. The admirable work of Gruber and Durham, who first correctly interpreted the nature of the reaction, does not appear to have received the recognition which it deserves. For instance, these authors published some months before Widal the simple method of observing the reaction under the microscope with a drop of serum, which has since become the one generally used.

CONCLUSIONS.

1. The use of dry blood serum diagnosis has given us what appeared to be satisfactory results for diagnostic work.

2. An incomplete reaction was occasionally obtained as early as the end of the second day.

3. The complete reaction was rarely delayed beyond the fifth day.

4. Typhoid blood allowed to dry for 60 days still gave the typical reaction. This might permit of its application to medico-legal work.

5. In experimental cholera immunity, a typical reaction was obtained with dried blood.

6. The reaction may appear after a single dose of typhoid or cholera culture.

7. There is a possibility that the clumping of the typhoid bacilli may be utilised as a means of isolating them from cultures made from water fæces, etc.

THE TREATMENT OF DELIRIUM TREMENS BY CHLORIDE OF AMMONIUM.—Dr. Gilbert C. Cottam, in November *Medicine*, writes that it is universally accepted that the usual routine treatment of delirium tremens is unsatisfactory when applied at the bedside, namely, because the inebriate in a great many cases habitually indulges in morphine, chloral, bromides, etc., thus establishing a tolerance for sedatives and hypnotics, which to a great extent renders these agents inoperative. The writer, in 1893, while an interne, had the opportunity of practically demonstrating the above theory. A man who was treated by the Keeley method in 1891 followed his "cure" by a speedy relapse. After a three-days' debauch he came to the attention of Dr. Cottam. He was in an acute stage of delirium, with all the attendant hallucinations, pulse rapid and strong, very restless, and making efforts to reach the ceiling of the room by climbing the walls. One grain of morphine was administered hypodermically and without effect. Several hours afterward one drachm of chloride of ammonia was used. This latter was not retained by the patient. After a short interval another was given without producing emesis, and in fifteen minutes the hallucinations of snakes had disappeared, and in forty minutes he was asleep. It was not thought necessary to continue this drug. It was afterwards learned that this was the patient's third attack. He had been addicted to the use of morphine in large doses for headache and insomnia, hence the non-action of that drug when administered. The doctor states that it is possible that this may have been an exceptional case, and relates his experience in the hope that it may be given a more extended trial.

COLD BATHING DURING MENSTRUATION.—Cold bathing during menstruation is a beneficial measure, provided women become accustomed to it by bathing every day for eight days before. Helzel holds that cold salt-water baths facilitate the menstrual flow, increase the duration of genital life, and increase fecundity.—*Dr. Depasse, Lancet Clinic.*

NOSE AND THROAT.

IN CHARGE OF

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SIMPLE PROPHYLAXIS OF NASAL DISEASE.

BY JOHN R. WINSLOW, B.A., M.D.

Clinical Professor of Throat and Nose, Woman's Medical College; Throat Surgeon Presbyterian Eye, Ear and Throat Hospital; Fellow American Laryngological, Rhinological and Otolcgical Society.

The nose is, or should be, the portal of entry of the air we breathe. During its passage through the nasal chambers the air is prepared and rendered suitable for respiration in the lower respiratory organs. This preparation is essential, and upon its proper performance depends the health not only of the respiratory tract but even of the entire organism.

Thus the nose bears a hygienic relation to the entire body, and when it is deranged those organs that are directly or indirectly connected with it must sooner or later be also affected. This is particularly true of the throat and lungs, and many diseases so common to these parts take their origin in deranged nasal functions. Indeed many writers hold the opinion that most of the chronic affections of the lungs are principally due to improper nasal respiration. Certainly it has been abundantly demonstrated that even such serious disease as pulmonary phthisis is markedly benefited by suitable treatment of co-existing nasal affections.

Now, one of the important functions performed by the nasal apparatus is the removal of dirt from the inspired air, both visible material as well as the micro-organisms of disease. Every individual, with any care for health and cleanliness, performs certain daily ablutions which are termed "the toilet." Although the nose is one of the most uncleanly organs of the body, it is seldom included in this routine. That this essential process of cleansing the nostrils is wofully neglected any of us who has occasion to examine many of these organs can attest.

With a normal condition of the nose, then, simply as a matter of ordinary cleanliness, the toilet of this organ should be added to that of the face, hair and teeth.

Turning now to the pathological side of the subject, while I have no intention of entering upon a discussion of the treatment of chronic nasal

catarrh, it has occurred to me that by attention to its earlier stages many of these conditions might be avoided and destructive operations with cautery and knife diminished in frequency.

And, firstly, I would urge it upon the profession that we should never neglect a coryza, or "cold in the head." Even in simple acute inflammations of the nasal mucous membrane there is gradually established by repeated attacks a permanent alteration, which eventually results in chronic nasal catarrh.

But what we term acute coryza is frequently the invasion of an infectious micro-organism, with resulting inflammation which may extend to the Eustachian tubes and ear, larynx, trachea and lungs. Thus Ziem draws the conclusion, from extensive observations, that the nose is the gate of entry of these organisms. They penetrate not only the nasal chambers, but enter the accessory sinuses in communication with them. Wolff, of Hamburg, has demonstrated the presence of staphylococci, streptococci and diplococci in the accessory sinuses after cases of diphtheria, scarlet fever, and even measles. In nasal diphtheria virulent bacilli were found in the antrum four months after apparent cure. In scarlet fever and measles the accessory sinuses were always found affected. The more extensive my own experience becomes in affections of the accessory cavities of the nose, the more I am convinced that many, if not most of them, are ushered in by an acute coryza, so-called.

The lesson lies upon the surface that not only should we never neglect even an apparently simple cold in the head, but that in addition to the well-known constitutional remedies, and especially in influenza, scarlet fever and measles, we should apply well-directed antiseptic douche treatment to the nasal mucous membrane, and as long as symptoms of irritation are present. For this purpose we may use one per cent. salt solution, Seiler's, Dobell's, etc., properly diluted.

The second point to which I desire to draw attention is earlier treatment of the antecedent stages of chronic nasal inflammation. These cases seldom come under the care of the specialist, and there is little occasion that they should. Unfortunately, when they do apply to their physician for treatment they are often either told that "it will get all right," or are put under a vigorous and irritating spray regime, which only hastens the inevitable result, chronic nasal catarrh. What they require is a word of intelligent advice, and a simple, efficient and harmless method of treatment, which can be carried out at home with little trouble or expense.

I fully agree with the writer who, in speaking of nasal catarrh, says that the proper systematic use by the patient of an antiseptic cleansing fluid will do more to restore the mucous membrane to its normal condition than the specialists' treatment, and that this treatment without such assistance is deceptive and inefficient. How much more, then, will suitable and timely treatment prevent the establishment of this condition.

The symptoms presented by these cases are very variable. One of the most prominent is occlusion of the nostril, varying from side to side, and most marked at night or when lying down. This is due probably to some vaso-motor disturbance and temporary engorgement of that turbinated body which is most dependent. Then there are various indefi-

nite symptoms due to perverted nervous function. Thus many patients complain of an almost intolerable itching inside the nose, others simply of a general uncomfortable feeling which they are unable to describe, others of a feeling of tension at the bridge of the nose, etc.; all of them premonitory symptoms, which should not be dismissed as trivial, and should lead us to institute prophylactic measures. Examination of the nose shows little more than slight congestion of the mucous membrane.

Treatment—At the outset I wish to condemn unqualifiedly the so common direction, "Snuff salt water up your nose." Either it does not pass beyond the vestibule of the nose, or, if sufficient force be used, it may be aspirated into the middle ear with permanent damage. Moreover, in the strength in which it is used by the laity, saline solution is by no means the unirritating fluid that is commonly supposed. Unless prepared in powders, tablets, or some definite sub division, so that the strength of the solution shall not exceed one per cent., salt had. best not be used, its very simplicity and commonly reputed harmlessness being its dangers. As a cleansing agent a more efficient substitute is cooking soda, which I direct to be used warm in a two per cent. solution (℥j—about a tumblerful). This should always precede other measures.

For therapeutic effect I have tried most of the "ines" and "ols" that are offered in ever-increasing numbers, first to the profession and then to the public. One of the latest of these actually turned sour (fermented) upon my office table, a proof positive that it possessed not the slightest antiseptic virtue. The numerous tablets of attractive formula that are furnished soon become hard and insoluble, so that considerable time and trouble are required in their use. These I always order to be crushed, and, when possible, rubbed up in glycerine.

For my own purposes in the office I have discarded these, so to speak, "ready-made" preparations and employ the following powder, an amplification of that of Professor Karl Stoerk, of Vienna:—

℞.—Kalii Chlorat.
Sodii Chlorid.
Sodii Biborat. } aa. 15.0 (℥ss)
Sodii Bicarb. 50.0 (℥j ℥ivss)
Sodii Salicyl. 15.0 (℥ss)
Acidi Carbol. 2.0 (℥ss)
Menthol
Eucalyptol
Thymol } aa. 1.0 (gr. xv)

This I keep in a wide-mouthed, glass-stoppered bottle, and from it I can prepare at any time the saturated solution in water and ten per cent. glycerine, which I always have ready. Of this saturated solution I add from a few drops to a drachm to a spray tube full of warm water, regulating the strength more by the feeling of the patient than the actual quantity in solution. The same method and solution are adaptable to the nasal douche. The advantages of this method are several. It is cheap, the original powder costing about seven cents an ounce, a small quantity of which makes a pint of the saturated solution, of which but a few drops are used at a time.

It is already in solution, or can be prepared at a moment's notice.

It is a method by which we can instantly prepare a warm spray of proper strength from our hot water faucet, which I have found a distinct advantage.

With regard to the means of applying these cleansing and antiseptic solutions, we have an efficient instrument, and one that is safe to put in hands of patients, in the form of the nasal douche-tube or douche-cups. These are modelled, all of them, after the "schiffschen," which was in daily use in Politzer's clinic in Vienna several years before their appearance in this country. Each of these has its advantages and disadvantages, which I do not undertake to discuss.

We have introduced at the Presbyterian Eye, Ear and Throat Hospital a douche-tube which, it seems to me, presents certain advantages over the others.

1. It is cheaper than any other that is of efficient size (one ounce).

2. Its nose-piece joins the body at an angle, so obtuse that it is not necessary to nearly dislocate the neck in order to cause the fluid to run back through the nostrils. (See cut.) This, together with a similar douche, termed No. 10, was made for me by Whitall, Titum & Co., and can be obtained from them.

The method of use is as follows: The tube is held between the thumb and index finger, the middle being over the air inlet. The nose-piece is introduced in the nostril with tube vertical, the chin is thrown forward and the head slightly backward, over a basin. The flow of fluid is controlled by the finger over the air inlet, and when it is removed the pressure of the column of water is sufficient to force it through the nose. The flow can be arrested at any time, simply by placing the finger over the air-hole. By directing the patient to pant or pout constantly during the procedure, the palate is elevated, the fluid flows in a continuous stream into the nostril, around the septrum and out through the opposite nostril. Patients are directed to wash twice with warm soda solution through each nostril, and then once with an antiseptic wash, after which they are directed not to blow the nose, but simply to wipe the outside.

The results of this treatment have been eminently satisfactory.

A Solution for Stopping Falling of the Hair.—

℞ Hydrochlorate of quinine, 1 drachm.
Tannic acid, 2 drachms.
Alcohol, 70 per-cent, 1½ pints.
Tincture of cantharides, 2½ drachms.
Pure glycerine, 1½ ounces.
Cologne water, 10 drachms.
Vanillin, 2 grains.
Pulverized sandalwood, 1 drachm.

This mixture, after being well mixed and shaken, is allowed to stand for four days and is then filtered. It is rubbed into the scalp daily for the purpose named.—*Revue de Thérapeutique Médico-Chirurgical.*

PAEDIATRICS.

IN CHARGE OF

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THOMAS, JOHN JENKES: DIPHTHERITIC HEMIPLEGIA.

Diphtheritic hemiplegia is a very rare disease. The author reports two cases and gives the history more or less complete of twenty-eight others found after an extended search in literature. These thirty cases form the basis of the paper. He quotes Putnam, who says that of the post-infection disorders of the nervous system none are so common as neuritis, and he distinguishes three varieties: (1) The neuritis attending the first stage of an infective process before there has been time for the development of general disorders of nutrition; (2) the post-infectious neuritis, in the production of which general disorders of nutrition and a variety of other causes play an important part; (3) the acute, usually fatal, and hemorrhagic neuritis of unknown origin. "Finally," he says, "it should not be forgotten that what we have considered as neuritis is often associated with nuclear and diffuse spinal lesions, and that better methods of investigation may show these to play a more important part in the production of symptoms and nerve-lesions than has hitherto been supposed." Hochhaus thinks that the cause of diphtheritic paralysis may be situated in the muscles. Besides a slight interstitial neuritis he found always a severe inflammation of the muscles. Cramer thinks that the changes in the nerve are primarily vascular and interstitial. Gowers classifies the paralyses of diphtheria under the form of secondary toxæmic neuritis, in which the toxæmic agent first causes some definite disease, which is followed by neuritis, which is probably generally due to some chemical product of the growth of the organisms in the body. He also says: "Diphtheria may cause acute changes in the nerve-cells and nerve-roots." He also describes the lesions found in the peripheral nerves as primarily parenchymatous, and says, "There is not, as a rule, any inflammatory change in the interstitial tissue of the nerves, and the primitive sheath is generally unchanged."

Thus the pathological changes produced in the nervous system by diphtheria are not confined to a single definite variety of lesion. Certain permanent paralyses, occurring after diphtheria, as the rapid paralysis of one cranial nerve and the progressive ophthalmoplegias and paralyses of other cranial nerves are probably nuclear in origin, the result of acute

or chronic nuclear changes, sometimes inflammatory, at other times due to small hemorrhages, which we have so repeatedly found mentioned among the pathological changes.

The flaccid form of the ordinary diphtheritic paralyses, the condition of the electrical reactions in them, and the almost invariable recovery from them, all point to the lesion being one of the peripheral neuron. Whether the change is of the nature of a parenchymatous or an interstitial inflammation is harder to decide. We can, however, assume that the nutrition of the cell suffers from the presence of toxic products, probably chemical, in the blood.

In the case of thrombosis in a cerebral vessel, which is not secondary to an embolus, we may have either a plugging of the vessels by bacteria in the blood-current, or the effect, direct or indirect, of the disease upon the vessel-walls, aided in most cases by the slowing of the blood-current, because of the affection of the heart.

Lastly, we have the cases of hemorrhage. The frequency with which capillary hemorrhages have been found throughout the whole central nervous system points to a diapedesis of blood-corpuscles and an increased permeability of the vessel-walls, produced by the poison of the disease or by the direct action of the bacteria themselves; which we may infer both from the fact that they have been found within these small hemorrhages, and from the frequency with which they have been found in other organs of the body. Certainly the hemorrhages large and small are produced directly by the poison of the disease within the body, and so should be considered as due to the disease itself. In like manner the changes in the peripheral nerves, which are the cause of the ordinary forms of diphtheritic paralysis, are produced directly by the disease, though not by the micro-organisms of the disease directly, as, indeed, in all probability, is the case with most of the symptoms of the disease. Therefore we are justified in speaking of diphtheritic paralysis and also of diphtheritic hemiplegia as the element of time in the sequence of direct results of the disease, which constitutes the chief distinction in this case, is of minor importance.

Of the thirty cases given more or less fully here, the probable diagnosis in seven is hemorrhage. The embolic cases are ten. The remainder, in which the diagnosis must remain more doubtful because of the ambiguity of the case or the too brief description, are twelve in number.

The attack ended in death in three cases, in two of which autopsies were made. These resulted in the finding of a thrombosis of the artery of the fissure of Sylvius in the case of Henoch, and a hemorrhage into the internal capsule in that of Mendel. Unfortunately there are no cases in which bacteriological examinations have been made, or the walls of the vessels carefully examined. In two cases recovery took place. In five other cases it is difficult to say whether the paralysis was permanent or not; one was stated to be almost well at the time of discharge from the hospital. In the remaining nineteen cases the hemiplegia was permanent, in the sense that it caused a greater or less permanent disability. —*Journal of Medical Sciences.*

ETIOLOGY AND TREATMENT OF ENURESIS.

G. Koester (*Deutsche Medic. Wochenschr.*, 1896, xxii, 364) has revived the electrical treatment of enuresis, first recommended by Seeligmuller in 1867, and obtained very satisfactory results. After the patient has emptied his bladder, he lies down on a sofa at full length. The anode of a faradic battery, armed with a medium-sized round electrode, is placed on the abdomen, just over the region of the bladder, while the cathode wire, after having been thoroughly disinfected with a 5-per cent. solution of carbolic acid, is inserted into the urethra for 1 to 1.5 cm., and thus held. Allow the current to pass, and gradually increase its strength as high as the patient can bear with comfort. Continue for two to three minutes, then gradually weaken the current to its lowest power, where it is allowed to remain for one minute. After this procedure has been repeated three times the séance is ended. Frequently this one treatment is sufficient for a cure. It is better, however, to repeat it a few times during the following three or four days. Whenever the patient has soiled either the bed or his clothing with urine, an application of the current should be made the following day, and only when no enuresis has occurred for a number of days in succession should the treatment be discontinued. He has treated 20 cases (11 boys and 9 girls). Of these there were 11 cases of enuresis nocturna et diurna, of which 9 were cured, and 1 was improved; and 9 cases of enuresis nocturna, of which 8 were cured. The number of sittings given were, in 7 patients, only one; in 6, two; in 3, three; in 2, 4; in 1, twelve; and in 1, twenty; the average, therefore, being two séances. The cures were permanent.

He believes the cause of enuresis to be a weakness of the closing muscles of the bladder, the sphincter vesica and compressor urethra. The irritation produced by the cathode influences these muscles reflexly, hence the success of the method. Even in cases accompanied by obstruction to nasal respiration, or adhesions between the glans and foreskin, and in orthophimosis, the result was satisfactory, which goes to prove that an accompanying weakening of the sphincters must at least have existed. The strengthened sphincters were able to resist the reflexly irritated detrusors. Another case, in which the reflex irritation producing evacuation of the urine had been removed by the curing of a phimosis of two years' standing, still suffered from enuresis, until cured by the electrical treatment. This case also corroborated the fact insisted on by Henoch, that enuresis may follow the infectious diseases, for the boy remained cured until he had an attack of measles, when a relapse occurred. From taking cold, and through psychic excitement, the sphincters of the bladder may experience a temporary weakness. General debility is not a very important factor as a predisposing cause, it being only present in 7 out of the 20 cases, the rest having a strong and even robust constitution. In one case heredity seemed to have had some influence, as the father suffered from enuresis up to puberty, and a brother is still subject to it.

SUCCESSFUL LAPAROTOMY AND KRASKE OPERATION ON AN INFANT TWO DAYS OLD, FOR IMPERFORATED RECTUM.

J. W. Elliot (*Med. News*, 1896, lxix, 436) says that an infant, two days old, was brought to him at the Massachusetts General Hospital, with the history that it had passed no meconium since birth. The child weighed six pounds ten ounces at birth. Examination revealed a perfectly formed anus, which proved to be a blind pouch, less than a quarter of an inch deep. The abdomen was distended and hard. The little finger was easily passed into the vagina, but detected no bulging of the bowel.

An incision was made from the anus to above the level of the top of the sacrum. After a few minutes' dissection, it became evident that the lower rectum was entirely absent. The posterior wall of the vagina bulged into the wound, and was opened in order to inspect its upper end. The coccyx was next removed with scissors, but no portion of the rectum could be found. The lower part of the sacrum was next cut out on the left side, up to about the third foramen, making a regular Kraske operation. The finger was then pushed in just in front of the sacrum to a considerable depth, but the bowel could not be felt. The child was then turned on its back in the Tendelenburg position, and the abdomen opened in the meridian line. The urachus and the bladder were met lying against the abdominal wall and were avoided.

The lower bowel was found to consist of a greatly distended pouch, which filled the abdomen and seemed to spread out over the whole pelvis but not to enter it. Its distended condition prevented pushing it down into the pelvis. A trocar was passed in through the sacral wound, and, with two fingers in the abdomen to guide it was pushed into the distended bowel. Gas escaped freely, and as soon as the bowel had collapsed he was able to push it down in front of the sacrum until it was caught in the sacral wound, where it was opened and stitched to the skin, as in a regular Kraske operation. The abdominal and perineal wounds were quickly closed with sutures.

The infant bore the operation remarkably well. Great care was taken to keep it warm. It was fed on modified milk.

The temperature rose to 102° F., and pulse, 140. On the fifth day the temperature was normal, and gas and feces passed freely through the artificial anus. The child gained nearly two pounds in the next three weeks, and was discharged from the hospital on the twenty-seventh day in good condition. The wounds had healed rapidly, and the opening into the rectum was large and needed no dilatation.

A letter from the parent, a doctor, three months after the operation, reported the child in excellent health, but the opening into the rectum had required dilatation.

"Sue for your divorce in the United States. ☞ Albert L. Widdis, Attorney-at-Law and Solicitor in Chancery, 720 Chamber of Commerce, Detroit, Michigan."

THE TREATMENT OF ECZEMA IN CHILDREN.

Duenges (*Centralbl. f. Kinderheilk.*, 1896, vi, 182). One form of eczema which may materially interfere with the health of the child is that form which usually appears on the bottom and posterior aspect of the thighs of infants. Its origin can generally be traced to the irritating quality of the urine and feces. These children cry a great deal, sleep proportionately little, and, besides, there is danger of ulcers and abscesses forming on the diseased parts, with their accompanying ill-effects on the health, and even more serious consequences may result. As these cases often resist all kinds of treatment with ointments and baths, the author recommends one which has given him the most rapid and excellent results.

The child must at first be given a bath of 27 to 28° R. It is of importance to dry the child after the bath without friction of the diseased parts, by the simple pressure of a soft towel, or absorbent cotton. Following the bath, any kind of babies' powder is to be thoroughly dusted on the eruption, and then it is to be covered with gutta-percha sheeting, which must be kept well in place by the diaper, or, if necessary, by a roller bandage. In this way the deleterious effect of the urine coming in contact with the skin is avoided, and a chance given the parts to heal. Frequently the moist eczema is already converted into the dry, scaly form on the second day of treatment, and rapid healing takes place.

PREPARATION OF DILUENTS AND FOODS.—The following from Starr's recent book on "Diets for Infants and Children" may be of service:—

Barley-water.—Put two teaspoonfuls of washed pearl barley in a saucepan with a pint of water; boil slowly down to two-thirds of a pint; strain

Oatmeal or Cracked-wheat Water.—Add from one to three tablespoonfuls of well-cooked oatmeal or cracked-wheat porridge to a pint of water; heat almost to boiling-point, with constant stirring until a smooth mixture is obtained; strain.

Whey.—Heat one pint of milk to a heat that can be agreeably borne by the mouth; add, with gentle stirring, two teaspoonfuls (two fluid drachms) of Fairchild's essence of pepsin; let stand until firm coagulation takes place; beat with a fork until the curd is finally divided; strain.—*Annals Gynæ. and Pæd.*, Nov., 1896.

Flour-ball.—Take one pound of good wheat flour (unbolted is best) tie it up very tightly in a strong pudding-bag, place in a saucepan of water, and boil constantly for *ten* hours; when cold remove cloth, cut away soft outer covering of dough, and, as required, reduce hard, baked interior to powder by grating. When using rub the required quantity of powder, with a tablespoonful of milk. into a smooth paste; add a second tablespoonful of milk, rubbing until a creamy mixture is obtained; finally add this, with stirring, to total quantity of liquid for the meal.

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Editorial.

BRITISH MEDICAL ASSOCIATION.

Owing to the fact that the meeting of the General Council of the Association has been delayed until January 20th, we are still ignorant of the names of those selected to give the general addresses and to be office holders in the various sections in the forthcoming meeting. We can only here repeat that the local Executive in Montreal has throughout felt that it will be highly conducive to the success of the meeting if leaders of the profession in the old country, rather than Canadians, be chosen to occupy the leading positions in connection with the forthcoming meeting. This not from any disbelief in the abilities of Montrealers and other Canadians being able to prove themselves worthy occupants of the positions, but from a belief that the known presence of well-known men will attract to Montreal a greater number both of Canadians and of practitioners from Great Britain and the Colonies in general. Judging from a telegram recently received from Dr. Roddick, the President-elect, he has found the authorities in England most anxious to aid in making the meeting successful along the lines suggested by the local Executive. Dr. Roddick left Montreal on the 1st inst., and is devoting some weeks in England to the business of the Association; he has, we learn, been received with open arms and a dinner was given in his honor. Not only will he be able to post the officials of the Association with all necessary information concerning what has been done in Canada, but he will, we trust, be able by personal interviews to secure the attendance and active co-operation of many who are first and foremost in the profession.

Since our last issue we have received from England the exact wording of the resolution of the Council of the Association stating who are and who are not eligible to be members and to attend the meetings of the Association. This resolution was passed two years ago, and inasmuch as we hear on all sides that very large numbers of our profession in the United States are proposing to attend the Montreal meeting, it may be

well again to point out that however much the local Executive desires to welcome American practitioners, its hands are tied. Those visiting Montreal must either be members or invited guests if they are to enjoy the privileges of the meeting, and only British subjects can be members. The resolution runs as follows:

"*Resolved*,—That while recognising it as both a duty and a pleasure to accord a hearty welcome to foreign medical practitioners attending the annual general meeting of the Association, the Council is of opinion and is advised that it cannot extend to such practitioners the privilege of actual membership, having agreed to the origin and constitution of the Association, and to the fact that in the opinion of the Council the word "qualified" in by-law No. 1 means British subjects who are registered or entitled to be registered in the Medical Register of Great Britain or Ireland, or British subjects residing in any part of the British Dominions who are legally entitled to practice in such Dominions, and that such definitions cannot be further extended."

Since our last issue, also, the Excursions Sub-committee has obtained most favorable terms from the G.T.R. and the C.P.R. Companies. They offer to the Association and its guests to convey them at half fare as far as Sarnia on the one system and Port Arthur on the other. In addition, the C.P.R. will give the same rates to those wishing to cross the continent. Return tickets will be given from Montreal to Vancouver for one single fare, and the privilege of stopping over at the leading places of interest along the route. The Committee has not as yet received absolute information from the Railway Companies as to whether these terms apply to Canadian members of the Association as well as to members from other parts, but the inference is that this is the case.

The Local Entertainment Sub-committee has also been busy and proposes to give members fond of exercise opportunities of showing their powers in golf, tennis, etc., against the visiting brethren from Great Britain. It is quite prepared also to have a lacrosse match, provided a sufficient number of members from the other side are acquainted with the game. Lacrosse, we may add, has of late years made considerable strides in the north of England and of Ireland and, again, round London.

Arrangements have already been made for a ladies' committee to entertain the wives and daughters of visiting members.

We learn from Toronto that a most attractive excursion through the Niagara peninsular, Kingston and the Thousand Isles has been arranged for those attending the meeting of the British Association for the advancement of Science and intending to be present also at the Montreal meeting.

CREOSOTE IN GONORRHŒA.—Fifty-eight male cases of acute gonorrhœa were successfully treated with injections of a two to ten per-mille emulsion of creosote. The discharge quickly decreased, became mucoid, and then ceased altogether. The patients recovered more rapidly than under the ordinary methods of treatment; complications developed but rarely, and no relapses occurred. In addition, creosote seemed to exercise an anæsthetic action on the urethral mucous membrane.—*Medical Age.*

SYPHILIS IN RELATION TO LIFE INSURANCE.

The question as to whether a syphilitic should ever be recommended for straight life insurance is one which must have confronted most medical men. The disease is held in such abhorrence by every one, medical as well as lay, that the ordinary human judgment is, we believe, somewhat warped in regard to it. Difficulties arise in the home circle when the husband, apparently healthy, is refused life insurance; and the medical examiner is sometimes put to it to invent excuses which shall be sufficient to prevent domestic unhappiness. We have not seen any definite statement as to the usual practice of medical directors of insurance companies in respect to this matter. Many a man would refuse to undergo an examination if he thought there was even a remote chance of his being rejected; for not only has he the uncomfortable assurance, from a source he cannot but respect, that his chances of life are no good, and of the domestic explanations that are pretty soon to follow; but his chances of being accepted by another company even later in life are greatly lessened by one refusal.

Would it not be well for these and many other reasons which might be pointed out, that some uniform rule be adopted by the more important life insurance companies? A consensus of opinion might easily be arrived at, and much trouble to clients and examiners, as well as expense to the companies, be avoided.

Dr. P. H. MacLaren, of Edinburgh, (*Ed. Med. Jour.*) gives the following classification of syphilitics as applicants for insurance and remarks on the subject. From his well-known standing as a syphilographer his words are worthy careful attention, not only in connection with insurance, but as to the chances of trouble and death from syphilis:

1. Cases that have been properly treated, and that are of good constitution and habits. The probabilities are that no complications will arise, and the expectation is that they will go through life with hardly more risk than those who have never had the disease.

2. Cases that have not undergone a sufficient course of treatment, and that apply for insurance before the expiration of six years, the period at which the disease normally terminates, but are not suffering from tertiary manifestations, and are otherwise satisfactory. The chances are that they will escape the malign form; but a ten per cent. extra should be charged until the expiration of the six years, when the cases can be reconsidered.

3. Cases where tertiary symptoms have developed. These should be absolutely declined, because while treatment may temporarily remove the symptoms, it cannot eradicate the tendency to recurrence. Clinical observation shows that these cases rarely live beyond a term of ten years, and often much less when palliative treatment is not properly carried out.

While his personal experience is almost absolutely favorable regarding the cases of class 1, the author deems it questionable whether, to perfectly guard the interests of the office, they should not rather be treated as are those of class 2.

THE PRESENT PREVALENCE OF LaGRIPPE,

The following suggestions will be of value at this season: The pains of influenza are something indescribable, especially when associated with high temperature. To relieve these with some preparation of opium is only to increase the cerebral congestion and aggravate the extreme prostration. Sharp, darting pains are no more severe than are the dull, heavy and persistent pains in the muscles and bones, which so often obtain in this disease. Clinical reports verify the value of the antikamnia in controlling the neuralgic and muscular pains, as well as the fever. In fact, antikamnia may now be called the *sine qua non* in the treatment of this disease and its troublesome sequelæ.

It seems hardly necessary to indicate the condition, when the use of two such well-known drugs as antikamnia and quinine will be serviceable, nor the advisability of always exhibiting antikamnia and codeine in the treatment of the accompanying neurosis of the larnyx, the irritable cough and bronchial affections. Relapses appear to be very common, and when they occur the manifestations are of a more severe nature than in the initial attack. Here the complications of a rheumatic type are commonly met, and antikamnia and salol will be found beneficial. Antikamnia may be obtained pure, also in combination with the above drugs, in tablet form.

Tablets mark the most improved form of medication, especially as they insure accuracy of dosage and protection against substitution. To secure celerity of effect always instruct that tablets be crushed before taking.—*Medical Reprints.*

EPHITHELIAL SOWING: A NEW METHOD OF SKIN-GRAFTING.

Von Mangoldt of Dresden (*La Semaine Med.*, XV., 1895, p. 520) employs the following method of skin-grafting: First, he selects the part from which the grafts are to be removed, preferably the inner or outer surface of the arm: then, after thoroughly cleansing and antisepticising the spot, the razor is sterilized and held perpendicular to the skin, the epidermis being scraped away until the papillary layer is reached. In this way a magma is obtained, being composed of extravasated blood and epithelial cells, which is placed upon and pressed into the part to be treated. At times the author first scarifies the part to make sure of adherence. After the foregoing, strips of adhesive dressing are placed over the part. This method, to which the author has given the name of "ephithelial sowing," is said to have advantages over the Thiersch method in that no pockets of necrotic tissue are closed in by the new-formed skin. After the fifth day the dressing is changed every two days, and the wound gently irrigated with sterile and warmed normal salt solution, and towards the end of the third week the surface shows a normal appearance.—*Philadelphia Polyclinic.*

TO PREVENT HEMORRHAGE.

In the course of a description of a case of limpho-sarcoma of the left side of the naso-pharynx, Mr. Watson Cheyne makes the following note: Just at the time this case occurred Dr. Wright had published some papers on the value of chloride of calcium in increasing the coagulability of the blood, and also of fibrin ferment as a styptic, and I, therefore, asked him to be present and to superintend the use of these substances, for I anticipated that there would be a good deal of bleeding. Accordingly, an hour before the operation a pint of water containing half an ounce of chloride of calcium was injected into the rectum, and during the operation pledgets of salicylic wood, soaked in Wright's fibrin ferment solution, were applied to the freshly cut surfaces. Whether as the result of this treatment or not, the fact is that extremely little blood was lost; I do not think more than an ounce or an ounce and a half.—*Lancet.*

TURPENTINE FOR BURNS.—Spirits of turpentine applied to a burn of either the first, second, or third degree will almost at once relieve the pain, and healing will take place very rapidly—much more so than by any other treatment that has come under my notice. After wrapping a thin layer of absorbent cotton over the burn, I saturate it with the turpentine, and then bandage. The common commercial article is the one I use, as it is generally found in every house. Being volatile, it evaporates, and it is therefore necessary to keep the cotton moistened with it. When there are large blebs, I open them on the second or third day. It is best to keep the spirit off the healthy skin if possible, as sometimes pain is produced by its action.—*Medical News.*

DANGERS OF CHROMIC ACID.—Being a convenient remedy, rapid in action and easy of application, chromic oxide has been extensively employed in the local treatment of hypertrophic rhinitis. The one objection urged against it has been the difficulty in regulating the extent of the caustic effects; nevertheless, headache and nausea frequently follow its intra-nasal application, and sometimes more serious results, such as albuminuria and acute nephritis. The absorption is not nearly so marked in the tongue and tonsils; hence it may be used safely on these parts.—*North-western Lancet.*

A MIXTURE FOR IRRITABILITY OF THE BLADDER.—In the *Gazette de Gynécologie* the following prescription for irritability of the bladder is given:

℞ Benzoic acid..... 15 grains.
Borax..... 1½ drachms.
Water..... 5 ounces.—M.

Dose, one tablespoonful three times a day. The mixture produces a decrease in the frequency of urination and lessens the irritability of the walls of the bladder, which are in an abnormal state owing to the phosphates in the urine.—*Med. News.*

GONORRHEA IN WOMEN.—J. F. Scott, of Washington, calls attention once more to the fact that gonorrhea is a much more severe and ravaging disease to women than syphilis. He also refers to the possibility of infection of an innocent bride by her husband because of a latent gonorrhea which he thinks has been entirely cured before marriage. "It is well known," says Scott, "that gonococci lurk in the deep tissues and lacunæ of the mucous membrane long after the symptoms have subsided and excess in venery, a debauch of wine, undue physical exertion, or any cause that may bring about a slight catarrh of the urinary tract, will be followed by the reappearance of the gonococci."—*American Journal of Obstetrics.*

Book Reviews.

DAVIS' OBSTETRICS: A TREATISE ON OBSTETRICS FOR STUDENTS AND PRACTITIONERS. By Edward P. Davis, A.M., M.D., Professor of Obstetrics and Diseases of Infancy in the Philadelphia Polyclinic, Clinical Professor of Obstetrics in the Jefferson Medical College of Philadelphia. In one very handsome octavo volume of about 600 pages, with 217 engravings and 30 full-page plates in colors and monochrome. Cloth, $5.00; leather, $6 00. Lea Brothers & Co., Publishers, Philadelphia and New York, 1896; Toronto, Carveth & Co.

Professor Davis' new work affords students and practitioners a concise yet comprehensive guide to the whole art of obstetrics in its most modern development. The author is widely known as a teacher, writer and obstetrician of unsurpassed ability. His thorough acquaintance with foreign literature has enabled him to place at the command of his readers the best material derivable from the vast sources of obstetrical knowledge in the Old World, and his own ripe experience and metropolitan facilities have been equally well utilized in the preparation of the volume at hand. A marked and attractive feature is found in the exceptionally rich series of engravings, among them being a large number of photographic reproductions of obstetrical scenes carefully selected in view of the amount, vividness and permanence of the knowledge which can be so well conveyed in no other way. The book is likewise embellished with a number of most instructive colored plates. In scope it is more comprehensive than ordinary treatises, as it deals with cognate subjects best handled in close connection with their obstetrical precedents, such as the repair of lacerations and injuries, the care of the mother, the infant, jurisprudence of midwifery, etc. A foremost place may confidently be anticipated for it, both as a text book and as a work of reference for practical use.

REFERENCE BOOK OF PRACTICAL THERAPEUTICS by various authors edited by Frank P. Foster, M D., editor of the New York Medical Journal, and of Foster's Encyclopædic Medical Dictionary. In two volumes. Vol. I.: New York, D. Appleton & Co., 1896; Toronto, Carveth & Co.

This volume of 652 pages takes the work down to the end of "M." The author has left out, very wisely we think, a lot of obsolete, and, to the practising physician, worthless matter such as the physical properties of drugs, their mineralogical, chemical, botanical, and zoological relations.

He has successfully endeavored "to set down only so much as is of direct bearing on the use of drugs in medical practice, or the management of poisoning due to them."

The work is, we believe, the best of the kind which has yet made its appearance. No one would attempt to read it through any more than one would attempt to read a dictionary, but though it has been in our office only a month, we have had occasion several times to refer to it, and have not once failed to find the information we desired. It should be in the office of every scientific and progressive physician and surgeon in the country.

Among the contributors to Vol. I. we note the names of Corning, Foster, Gerster, Jewett, Lilienthal, Otis, Potter, Ricé, Rohe, Solis, Cohen, and others equally well known.

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THE BACTERIOLOGICAL DIAGNOSIS OF DIPHTHERIA.

BY PROF. SHUTTLEWORTH, TORONTO.

A year ago I had the pleasure of presenting the results of six months' bacteriological work in connection with diphtheria, as carried on in the laboratory of the Toronto Board of Health. I now desire to briefly continue the record, so as to cover the intervening period from July 1st, 1895, to June 30th, 1896, and also to offer such deductions as seem justified by prolonged experience.

There were examined during this period the original exudates from 559 patients, of which 377 were from the Isolation Hospital and 182 from city physicians. The clinical records of the former cases are complete, but no systematic attempt was made to keep track of the latter, and the details submitted only refer to bacteriological particulars.

Collection of Exudates.—The plan first pursued in this laboratory of supplying swabs in corked tubes, and making the cultures in the laboratory, has proved in all respects entirely satisfactory. Published records of other institutions show that when both swabs and media are supplied, a considerable portion of the cultures are unsatisfactory, and have to be so reported. This arises partly from the fact that the culture media is dried up, or, from the removal of the wool, has become contaminated, and, partly, that physicians are not, perhaps, all as careful, or capable, as the laboratory worker, who is constantly engaged in such manipulations. There is abundant evidence to show that it is best for the bacteriologist to sow the seed as well as to look after the crop. Under such conditions, and with good swabs, there need not be any failures whatever.

Too much emphasis cannot be placed on the latter point. The physicians should endeavor to wipe off a small piece of membrane, or at least to use sufficient force to detach some of the outside layer, which is commonly richest in bacilli. The presence of epithelial cells, as shown by the microscope, is pleasing evidence that some force has probably been used, and that the exudate submitted is not mere superficial mucus.

Diagnosis by the Exudate.—I am more than ever convinced of the advisability of examining the exudate before making a culture. Reliable conclusions may often be arrived at in a few minutes. The gain of twenty-four hours in making a sure diagnosis is worth much to the physician; more to the patient; and often still more in the matter of isolation.

It was previously reported that a certain diagnosis had in this way been made in at least one-third of the cases, and a fairly correct idea in about three-quarters of the exudates examined up to July, 1895. Experience has increased the proportion in which the characteristic bacilli have been thus detected, as I find that positive evidence was given in 54 per cent. of the exudates sent in since that time, while 20 per cent. were marked suspicious, and 26 per cent. negative. Failure to find the bacilli does not prove their absence, and it is only when they possess definite and well-marked characters that the indications are of value. To a fairly experienced eye this appears to be the case in about half the exudates submitted.

Staining.—I am not aware of any stain which, for all-round purposes, is better than Loeffler's methylene blue. Having tried many others, including the dahlia and methyl green mixture of Roux, one returns with pleasure and satisfaction to the old and well-tried formula.

Fifty-six experiments were made with most of the eligible anilines, with various additions, but though many combinations answered well—as the bacillus is easily stained—none gave better septation and polarity than that of Loeffler, while for ease in working, uniformity of effect, and keeping qualities, the latter proved superior.

Relation between the Size of the Bacillus and its Virulence.—Observations as to the size of bacilli found in cultures have been continued during the year, and the results confirm the statement previously made—that this character affords little on which to base a prognosis. The records show that the disease was mild or severe in about an equal proportion of the cases in which the cultures showed large bacilli. Mild cases predominated when the bacilli were of medium size, and this was also the case when the micro-organisms were small. In the instances in which the bacilli were very irregular the severe cases were nearly double those which were classed as mild.

On looking up the details of the last 45 fatal cases, there were twenty instances in which the bacilli were large, six medium, ten small, and nine very irregular as to size. Large bacilli here apparently indicate the most serious consequences, but I doubt if this and similar data warrant such conclusion, more especially when taken with previous experience, by which an opposite result was reached by Park and Beebe, and also by me. It appears reasonable that long, well-developed bacilli would be

likely to grow most vigorously, produce the greatest mechanical obstruction, and the maximum quantity of toxin; but against this there must be taken into account the influence of culture media and conditions on the development of the bacilli. Parallel cultures of the material from the same swab, if grown under precisely similar conditions, but on serum media of different ages, dryness, or composition, will give organisms which are markedly different in size and type. This has been repeatedly observed, as also the effect of varying incubation temperatures.

The various factors which constitute the resistance of the patient exercise an all-powerful influence on the result of the attack. Taking this, with the circumstances just alluded to, I think it unwise to base a prognosis on such a variable character as size, though with the same medium and conditions the numerical chance seems to favor the idea that the largest bacilli are the most virulent.

The Pseudo Bacillus.—The position of the so-called pseudo bacillus has not been any more clearly defined than it was a year ago. It is still maintained by some that an organism exists which, in morphological characters and staining peculiarities, is undistinguishable from the true bacillus; but that, as tested on guinea-pigs or rabbits, it is devoid of virulence. Objection may be taken to this test, as pointed out by Lennox Brown in his recently published work on diphtheria. It is argued that these animals may, like horses, possess varying resistance to the toxin, and it is probable that such animals are sometimes altogether immune, as some human beings undoubtedly are. The test of virulence must therefore be made subject to this condition.

I do not purpose entering into this argument, nor is it necessary in practical diagnosis to attempt any nice distinctions. Patients sent to a diphtheria hospital manifest symptoms sufficiently marked to justify their temporary admission, and bear evidence of the attack of organisms possessing some degree of virulence. For hospital purposes it is therefore proper to characterize as diphtheria all cases in which a bacillus exhibiting the peculiarities of that of Klebs Loeffler is found in the exudates or revealed by cultures.

Persistence of the Bacilli in the Throats of Patients.—Discharge from the hospital has for the past year been entirely governed by the results of bacteriological examinations of cultures from the throats of patients. It was formerly the practice to detain patients for 14 days after the disappearance of the membrane, or say 28 days from admission; but it has been proved that this is by no means a safe rule, as many would thus carry infection, while others would be kept in hospital much longer than necessary.

The shortest time for the disappearance of the bacilli was 14 days, but this may be regarded as exceptional, as the average duration of the term was 22.8 days. In 13.9 per cent. the detention was from 28 to 35 days; 5.9 per cent. between 35 and 42 days; 2.1 per cent. between 42 and 49 days; while in one instance the infection was retained until the 65th day, and another until the 75th day. The case of the second longest term is particularly interesting from the fact that it was one in which anti-toxin was employed during the early stage of the disease. The

case in which the infection was retained for 75 days shows a longer duration than any cited by Park and Beebe in last year's New York statistics. Longer periods have been recorded elsewhere, as that instanced by Lennox Browne, in which 146 days elapsed after the disappearance of the membrane.

The direct economic advantages of bacteriological examination as a guide to hospital discharge will be evident from the statistics given, and it will only be necessary to indicate the still greater gain which follows the isolation of infected patients, who would otherwise go forth and sow broadcast seeds of future disease.

Pathogenic Organisms Found.—In the following table organisms other than the diphtheria bacillus are widely classed as streptococci and staphylococci, but it must not be inferred that the former always indicates streptococcus pyogenes, or the latter the pus staphylococci. Tetracocci are not included. The classification was made on the microscopical characters of composite serum cultures after an incubation of 24 hours, except the tubes set on Saturday, which were allowed to remain in the thermostat till Monday. Comparisons of the results of cultures of short and long exposures do not lead to the conclusion that 24 hours was not sufficient for the development of the bacteria present.

The table covers both hospital and outside patients, 559 in all. For greater intelligibility the results are given in nearly whole percentages:

	Hospital Cases.	Private Cases.
B. Diphtheriæ	56 per cent.	40 per cent.
" and streptococci	16 "	12 "
" and staphylococci	7 "	2 "
" with strepto. and staphylo.	8 "	1 "
Streptococci only	2 "	26 "
Staphylococci only	6 "	2 "
Strepto. and staphylo	5 "	11 "
Other organisms	0 "	3 "
Sterile	0 "	1 "

Comparison of this table with a similar one submitted last year shows a greater prevalence of cases of pure diphtheria and less of the complex or cocco-bacillary form, and also a less proportion of coccal, or non-bacillary affections. With regard to the hospital cases, this may be in part accounted for by the fact that physicians have become more careful in the selection of patients. After the first two months following the institution of bacteriological diagnosis the proportion of non-diphtheritic patients admitted was 27.9 per cent.; after six months this had dropped to 24.5; in nine months it was 21.6, and the average for last year was only 12.4 per cent.

Of the city cases the proportion is but slightly changed. The specific bacillus was present in 56 per cent. of the cultures, against 61.7 last year; the cases of non-bacillary infection being 43.4 against 36.3 per cent.

The above facts do not wholly account for the comparative absence of coccus forms, as I have noticed, with regard to St. pyrogenes aureus—

easily recognized in old cultures—that it is at times relatively prevalent, and then for months it seems to almost disappear. It was observed in 24 out of 377 primary cultures, or in 6.3 per cent of the cases.

The classification of cases into mild, severe, very severe, and fatal groups, as revealed by clinical records, has been continued, and when taken with the bacteria observed gives a table similar to that before presented:

Table of Organisms compared with Clinical Results, July, 1895, to June, 1896, inclusive.

	Mild.		Severe.		Very Severe.		Fatal.		Total.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
B. Diph.....	102	47.9	30	14.0	45	12.1	36	16.9	213	56
B. D. & strep.....	35	50.7	9	13.0	13	17.9	12	17.4	69	18
" staph.....	9	32.1	4	14.3	9	32.1	6	21.4	28	7
B. D. St. & Sp..... ...	12	60.0	4	20.0	3	15.0	1	5.0	20	6
Staph	6	100.0	0	00.	0	..	0	..	6	2
Strep.....	23	100.0	..	..	..	..	..	..	23	6
Staph. & strep	18	100.0	..	..	..	.	..	..	18	5

A comparison of this and the previous table shows them to be fairly accordant, and I am able to repeat, with greater confidence, the statement that when staphylococci, or streptococci, are associated with the diphtheria bacillus, the mortality is higher than when the latter is alone present. This is in accordance with common belief. I have, however, again found that the most serious combination is that of the diphtheria bacillus with staphylococci. The disease is more malignant, and the mortality higher than under any other conditions. It will be seen that with the diphtheria bacillus alone the mortality was 16.9 per cent.; the combination with streptococci gave 17.4 per cent., while that with the staphylococci showed the deaths to equal 21.4 per cent. The mild cases exhibit a reverse proportion. Thus, of 213 cases in which the diphtheria bacillus was alone present, 47.9 per cent. were mild; with 69 cases of a mixed infection with streptococci the percentage was 50.7; and of 28 cases of mixed infection with staphylococci the proportion fell to 32.1 per cent.

The combination of both staphylococci and streptococci with the specific bacillus is again shown to be of benign character. Such mixtures resulted in the reduction of the death-rate to less than one-third that shown by the mixture of the diphtheria bacillus and streptococci, and less than one-quarter of the staphylococcus mixture. When it is considered that the records extend over a year and a half and include 565 cases, it can scarcely be concluded that this is the result of mere chance.

With regard to the effects of streptococci, or staphylococci, respectively or associated together, the consequences have never been serious, nor has any case proved fatal. Such patients have generally been sent out from hospitals within a week, and in no instance has there been any return, or omplaint of too hasty discharge.

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Susceptibility according to Sex.—The female sex continues to show greater susceptibility, or possibly greater exposure, to infection, as the female hospital patients bear the relation of 59.2 per cent. to 40.8 per cent. of males. This proportion corresponds fairly with the admission to the Asylum Boards Hospital, of London, from 1888-94, inclusive. Of 11,598 cases, 54.8 per cent. were females and 45.2 males.

Susceptibility and Mortality According to Age.

	No. of cases.	Deaths.	Per cent.
7 and under	184	44	23.9
7 to 14	92	7	7.5
14 to 21	46	1	2.2
21 to 32	55	3	5.4
			14.58

It will be noticed that four of the deaths were those of persons over 14 years of age. The ages were 16, 23, 26 and 32 years respectively. As far as statistics here are concerned this is a somewhat abnormal state of things, and may be in part accounted for by the statements that two of these patients were suffering from typhoid fever when attacked by diphtheria, and in the other cases, both females, one was under recovery from a severe uterine operation, and the other was worn out by poverty and disease. These conditions doubtless had an influence on the final result, but, taken as it is, the percentage of deaths in patients over 15 differs only by 0.4 per cent. from that given by the English statistics previously referred to.

Age predisposition and age mortality have been remarked everywhere, and are probably rightly ascribed by Lennox Browne to two causes: Disposition to nasal obstruction and tonsil enlargement, and the tendency in the infant to membranous exudation in all acute inflammatory conditions of the throat, irrespective of contagiousness, as compared with submucous infiltration, with œdema, in the adult.

The statement made last year as to the mild type of disease prevalent in Toronto is confirmed by further experience. The mortality for the period stated was 14.58 per cent., and for the past four years the hospital register of 1,506 cases to December, 1895, shows 18.52 per cent. The Asylum Board's statistics, 1888-94, give a death-rate of 30.3, and in the hospitals of continental Europe the mortality is much higher. I think these figures warrant the conclusion that either the bacilli are less virulent in Toronto than in European countries, or that the resistance of patients is greater.

ABORTIVE CARBUNCLE TREATMENT:

Resorcin.....gr. xlv.
Lanolin.....℥i—M.

Sig.—Apply to carbuncle after having made multiple parallel incisions. —*Medical Summary.*

ON TREATMENT OF DYSMENORRHŒA.*

BY A. LAPTHORN SMITH, B A., M.D., M.R C.S. ENGLAND.

Fellow of the American Gynecological Society, and of the London Obstetrical Society; Gynecologist to the Montreal Dispensary and to the Western Hospital; Surgeon-in-Chief of the Samaritan Hospital for Women; Professor of Clinical Gynecology in Bishop's University, Montreal.

Taking it for granted that we all recognize the fact that dysmenorrhœa is not a disease, but rather a symptom of many and varied pathological conditions, it follows that the treatment will depend entirely upon the diagnosis. On looking over my records of three thousand three hundred cases, of which one thousand and thirty were seen at my private office, and two thousand two hundred and seventy came to the Montreal Dispensary, I find that dysmenorrhœa is a very common symptom, almost one-fourth of all the patients complaining of it. It appears most frequently among unmarried girls, and a little less so among married women who have not had a child. Next to these, in order of frequency, come married women who have had one child, and who have a scanty flow at the period; while it is also met with, but still less frequently, among married women who have had several children, and who flow profusely and during a prolonged period of time.

These observations, which I presume correspond with the experience of others engaged in this department, are, I think, important because they throw a good deal of light on the causation and consequently upon the treatment of the symptoms. Why do unmarried girls suffer in the greatest numbers from menstrual pain? Evidently because there are more of them than of any others who are suffering from stenosis of the os uteri. When these same girls become married women, the majority of them become pregnant, then menstruation ceases for at least nine, but often for eighteen or twenty-four months, and when, at the end of that time, it reappears it flows through a widely-opened uterine canal. There is another reason, however, why unmarried girls suffer more than married women who become pregnant, and I mention it as it has an important bearing upon treatment, namely, because at each menstrual period a congestion of the ovaries, tubes and uterus takes place, which is generally relieved by the flow; but in many women a little congestion remains over unrelieved, to be added to the next monthly one, until, little by little, the external layers of the ovary become thickened and the mucous membrane lining the uterus becomes swollen so that the canal becomes blocked up. In married women who are childless, either because their husbands are sterile or because they resort to measures for the prevention of pregnancy, or for other reasons, this congestion becomes still greater than in single women because there is added the more frequently repeated congestions of intercourse. Pregnancy cures the majority of cases not only of stenosis of the uterus but also of congestive dysmenorrhœa, because, as a rule, it puts a stop alike to menstruation and to the repeated congestions ac-

* Read before the Medico-Chirurgical Society of Montreal, Dec. 18th, 1896.

companying it and intercourse. Pregnancy, therefore, may be called Nature's remedy for dysmenorrhœa, because it both dilates the uterine canal and gives the ovaries a more or less complete rest. Remember, I do not say that marriage is a cure for dysmenorrhœa; on the contrary, marriage without pregnancy often makes it worse.

We now come to those women who though married and mothers of children still continue to suffer at their periods. What is their dysmenorrhœa a symptom of? Many of these women, I find by my records, have never suffered before their marriage but only since their first child. In many of these cases a careful examination of their histories will reveal the fact that at their marriage, or at their confinement or soon afterwards, they acquired acute septic or gonorrhœal endometritis, which subsequently has become chronic, leaving the mucous membrane of the cervical canal swollen, with distended glands which block it up; or the tubes and ovaries become diseased enough to make menstruation painful without in every case preventing conception. The fourth and smallest class of cases losing profusely and suffering severely, if less acutely than the former, will generally be found on examination to be affected with some form of displacement, generally a backward one, which seriously interferes with the circulation of the uterus. The blood is pumped into it by the arteries, but cannot get out of it by the veins, and so the generative organs become swollen and sensitive; the cervical canal becomes blocked, and in these cases the discharge, which is pure blood instead of debris of mucous membrane, coagulates, the clots having to be expelled by means of what might almost be termed labor pains.

Besides these four large classes I find many scattered ones, in which the pain was due to other causes, such as fibroid tumors blocking up the internal os and the closure of either the uterine end or of the fimbriated extremity of the fallopian tube or both. They are not without interest, and of their treatment I shall speak later on.

What is the best treatment of obstructive dysmenorrhœa due to stenosis of the cervical canal? Shall we open it up by means of laminaria or tupelo tents? I mention them only to condemn them. Or shall we place the patient under an anæsthetic and rapidly dilate the cervix with Hegar's or Banks' graduated sounds, or with Wiley's or Goodell's dilators? Or shall we resort to the relaxing and dilating effects of the negative pole of the galvanic current, in order to make a free passage for the ovarian, tubal and uterine secretions? Or shall we first try the effects of drugs, especially in the case of young girls?

My own procedure in cases of dysmenorrhœa is generally as follows:

1st. To improve the circulation of the uterus by curing constipation, and ordering exercise in the open air and sunshine, at the same time correcting errors in diet and dress. In addition to these hygienic measures I have found great satisfaction from the use of iron, strychnine and phosphoric acid. In my experience, about half the cases of dysmenorrhœa are cured without any surgical treatment or any other local treatment whatever. As many of the patients are virgins, I do not even make an examination until the above treatment, continued faithfully for a couple of months, has failed. It seems to make no difference whether

the patients lose very scantily or very profusely; in both cases they have been either cured or greatly relieved. I have often asked myself the question: How does this treatment cure the pain? And my explanation is that a toned-up, well-fed uterus, well-fed both as regards its nerves and its muscles, will be less liable to suffer from obstructing flexions, while the starved ovaries will be less likely to suffer at the menstrual flow from neuralgia, which I define as the cry of the nerves for better nourishment.

2nd. To relieve the spasmodic contraction of the sphincter of the internal os by ten grain doses of acetanilid repeated three times a day for one or two days, although sometimes a single powder is all that is required. In employing this drug it is advisable either to administer it in strong coffee or weak whiskey and water, or to combine citrate of caffeine with it, as I have occasionally witnessed some alarming effects on the circulation when this precaution had not been taken. Although acetanilid does cure, I cannot recollect a case in which it has failed to relieve, although I have employed it in over a hundred cases. There are other drugs of considerable value, although they sometimes fail even to relieve; among these the best, because quite harmless, I consider viburnum prunifolium. In the form of liquor sedans, prepared by Parke Davis, I have found it to help about one-half of the cases. The same may be said of Hayden's Viburnum Compound, the cost of which, however, is prohibitive. But in speaking of the medical treatment of dysmenorrhœa I wish to warn my brethren against two drugs of surpassing danger, namely, opium and alcohol. I have seen some sad cases of shipwrecked homes and blasted futures in which the drink or opium habits were acquired by the thoughtless though well-meant prescription of opium or morphine, or the advice to take a glass of alcoholic liquor. These cases rarely consult the doctor again until when it is often too late to save them from the thraldom of these drugs, except by incarcerating their victims in an asylum for inebriates and opium-eaters. Compared with the treatment by opium or alcohol I consider that by surgical operation to be immeasurably to be preferred. There is another means of relaxing spasm which at least deserves mention, namely, sitting in a bath of very hot water for half-an-hour, and splashing the water on the lower abdomen. I have learned this some years ago, like many other good things, from our Nestor, Sir William Hingston, since which I have often employed it with advantage. Hot douches and rest in bed have helped a few cases, but I have not known this alone to cure any.

3rd. If these measures fail we must turn, although in the case of unmarried girls with reluctance, to some treatment which entails examination of the uterus. The most effective, although the simplest and least dangerous, among these I have found to be the negative pole of the galvanic current. Five years ago I published in the *American Journal of Obstetrics* a report of nine cases of severe dysmenorrhœa cured by this means, which excited considerable comment throughout the United States and Canada, as was evinced by the large number of letters I received asking for further details in carrying out the treatment. As some of these patients had been treated in vain by many other methods, including

rapid dilation, which in one case was repeated twice, and as three of them subsequently bore children after periods of sterility as long as ten years after marriage, doubts were freely raised as to the accuracy of my observations. Since then, however, many more independent observers, including Dr. William Gardner, of Montreal, have assured me that their results have been equally surprising. It is due to Dr. Gardner to say that he was obtaining these results with it before I knew anything about electricity for dysmenorrhœa, although I am not aware of his having reported them. Since reporting these nine cases I have treated nearly a hundred others by this means, which, with a few exceptions, were equally satisfactory. I will not occupy your time in describing the method now, as I have done so in minute detail in my article on disorders of menstruation in the "International System of Electro-therapeutics," which was published three years ago by Davis, of Philadelphia. I will only say that it is marvellous to see how easily a sound will glide into the uterus when the negative wire is made to touch it, when that same sound cannot be made to enter even by force before the electrical connection was made. If there is any one who doubts it I will gladly demonstrate it for him at my office if he will provide me with a patient into whose uterus he will admit that he cannot force the sound. In the majority of cases the second or third period following the treatment comes on without the patient's knowing it; while in the cases in which it fails there probably exists some disease of the appendages, as I was able to demonstrate in several of them, in whom I eventually had to open the abdomen, when the tubes were found occluded at one or both ends, and the ovaries diseased.

4th. For those who are not conversant with the electrical treatment, or who are not supplied with the simple outfit necessary for its use, rapid dilatation comes next in value after therapeutic measures have failed. I will probably prepare a list of cases I have so treated, with their results, for the Montreal meeting of the British Medical Association; but until I have collected all the cases I can only estimate approximately that I have treated about three hundred in this way, with about 100 failures. With the exception of about five or six of them, in which Hegar's conical dilators or bougies were used, all were dilated first with Wylie's and afterwards with Godell's dilator. This is not the safe and simple operation that one might suppose it to be. The patient must be profoundly narcotized in order to paralyze the circular muscles in the cervix; and unless you are in a position to carry out absolute asepsis in its minutest details, it were better not to attempt it at all. Among the untoward results I have seen one general peritonitis and death: one perforation of the posterior wall of the uterus, which, thanks to asepsis and subsequent laparotomy and suture, caused no ill effects; several considerable lacerations of the cervix, and quite a number of cases of quiescent pelvic peritonitis relighted by the manipulations. The rather common practice of using the dilators in the office without antiseptic precautions cannot be too severely condemned. When dilation is performed it must be done thoroughly, at least half-an-hour being spent in separating the blades to a width of an inch and a-half, and all the while a stream of sterilized water should be allowed to flow over the field of operation.

Dilatation should in every case, in my opinion, be followed by curetting, especially of the thickened mucous membrane around the internal os, which acts like a valve over the opening, and prevents the exit of the menstrual flow. The whole inside of the uterus is then to be coated liberally with a mixture of equal parts of Churchill's iodine and carbolic acid, partly as an antiseptic and partly because it helps to cure the endometritis which so often coexists with, and perhaps may be one of, the causes of the pain.

Sometimes the dilatation and curetting either fail completely or only relieve for the immediately succeeding period. What shall we do in these cases? My custom is to repeat it at least once more; some repeat dilatation twice. If the cervix is very long and conical I have occasionally amputated it by Schroeder's method, and with good results. Should we employ a stem pessary, in order to keep the canal open? I am entirely opposed to their use: if they are employed it must be only with the greatest precautions, the patient being kept in bed and carefully watched for symptoms of peritonitis.

What should be our course in those rare cases which after all this treatment still remain unrelieved? My experience has been that in nearly every case which has been carefully treated during a year's time with these various measures unsuccessfully there is some incurable disease of the ovaries and tubes which will demand their removal. I place the duration of treatment somewhat arbitrarily at a year, because on the one hand I am opposed to removing the ovaries until ample time has been devoted to other measures of treatment; and on the other, I like to give my patients some definite promise of cure, as without some hope being held out they will become discouraged and abandon treatment altogether. In only five per cent. of my cases, or about forty times, have I been compelled to fall back upon this *dernier ressort*, when on opening the abdomen I have found more than enough to explain why the case resisted all ordinary measures of treatment. In most of them the tubes were found to be bound down with adhesions, and closed at one or both. In eight cases I have found a hydrosalpinx of one or both sides, and in about twenty the ovaries were sclerotic, so that the follicles were unable to rupture without great pressure. The result in all the operative cases has been very satisfactory; care was taken to tie the pedicle close to the corner of the uterus and to remove all of the ovarian tissue, as neglect of these precautions would have caused the operation to fail to attain its object, namely, the immediate and complete arrest of menstruation. I must not forget to mention a remarkable little group of six cases of severe dysmenorrhœa due to retroversion with fixation, the ovaries being buried in adhesions, and the fimbriated ends of the tubes closed. At the urgent request of the patients, who were married, not to remove the ovaries I have in these cases carefully freed the uterus, then dug the ovaries and tubes out of Douglas' cul-de-sac, in some cases lacerating them in the process, then tearing the pavillion of the tube off the ovary, and opening it up, and finally fastened the uterus to the abdominal wall. One of these was done at the Samaritan Hospital only a week ago, in the presence of several members of the Society, who can testify to the

number and density of the adhesions which were binding the ovaries down; five of them date back from six months to two years, and are now menstruating without pain. This method has, I think, a good future, as we are coming more and more to realize that the ovaries should never be sacrificed if it is possible to save them.

To sum up my experience in round numbers:

50 per cent. were cured by therapeutic and hygienic measures, including pregnancy,

25 per cent. were cured by rapid dilatation or curetting,

12½ per cent. were cured by electricity, negative pole,

5 per cent. were cured by removal of appendages,

7½ per cent., being impatient, went to other institutions, where eventually most of them had the appendages removed.

SIMPLE METHOD OF TREATING OPIUM POISONING.—In country practice a medical man might possibly find himself very much embarrassed in presence of a case of opium poisoning through not having at hand the necessary drugs. A French contemporary, the *Medicine Moderne*, reports a case, however, in which a practitioner conceived the idea of giving subcutaneous injections of very strong coffee. On being called to the patient, a child of 10, who had accidentally been poisoned by paregoric elixir, it was evident that the case was very urgent, pupils imperceptible, only two or three respirations per minute, coma. It was impossible to administer internal remedies, and quite impracticable to wash out the stomach, as the accident had happened in the open country. Accordingly the practitioner ordered a very strong decoction of coffee to be made (equal parts of coffee and water) and injected thirty drops hypodermically every ten minutes. After the fourth injection the breathing became freer, and the pulse fuller and more regular. In six hours the child was out of danger. The method is certainly one that is well worthy of being remembered and tried, especially by country practitioners, as opium poisoning is relatively a frequent accident among children, and is one that necessitates prompt and energetic measures on the part of the medical man.—*Med. Press and Circular.*

HEREDITY AND CRIME.—The following, taken from the *Medical Press*, compiled by Professor Belman, of the University of Bonn, relates the career of a notorious drunkard who was born in 1740 and died in 1800. Her descendants numbered 834, of whom 709 have been traced from their youth Of these 7 were convicted of murder, 76 of other crimes, 142 were professional beggars, 64 lived on charity, and 181 women of the family led disreputable lives. The family cost the German Government for maintenance and costs in the courts, almshouses and prisons, no less a sum than $1,250,000; in other words, just a fraction under $1,500 each. It would probably be difficult to find a more remarkable example than this of the evil effects of the transmission of hereditary defects.

SURGERY.

IN CHARGE OF

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DIFFICULTIES ENCOUNTERED IN REDUCTION OF DISLOCATION OF THE HIP.

By far the most noteworthy recent contribution to the important subject of hip-joint luxation is the Samuel D. Gross prize essay contributed by Dr. Oscar H. Allis. The author maintains the following propositions: 1. The capsule is the most important agent against traumatic dislocations of the femur. 2. For the laceration of the capsule and dislodgment of the head of the femur, the femur is employed as a lever. 3. Every lever has a fulcrum; the fulcra required in dislocations of the femur are bony and ligamentous. 4. Dislocation by thrust, if possible, is infrequent. 5. Reduction by circumduction is the simplest, and most brilliant, and the most hazardous of all modes of replacement.

Allis summarizes the functions of the ligamentum teres as follows: 1. The teres does not prevent dislocation, since it is possible to tear it from the head without completely dislocating the head. 2. The ease with which the teres can be torn after division of the capsule is also proof that its function is not that of a ligament. 3. While it is true that the teres may be torn without dislocation taking place, it is also true that without rupturing it a complete dislocation is possible. 4. If the teres escape rupture in the process of dislocation, it is highly probable that it will be ruptured during efforts at replacement, if circumduction be employed. 5. As there is no evidence that the teres contributes to the normal security of the joint, therefore insecurity or weakness of the articulation after the reduction of a dislocation cannot logically be attributed to its loss; nor can its absence be said to favor subsequent dislocations. 6. After reduction no unusual position of the limb or foot (such as flexion, inversion, or abnormal eversion) can justly be attributed to the lost function of the teres.

The functions of the capsule are: 1. To check the movements of the femur against a tendency to transcend the limits of safety. If one will dissect every structure from the joint but the capsule, he will be surprised at the resistance this single structure will offer to displacement. 2. To

offer a large surface for the attachment of muscles that contribute toward the safety of the joint and preside over the movements of locomotion. 3. To furnish a large surface for the display of synovial membrane. 4. To form a shut sac for the retention and distribution of synovia.

The following *résumé* of the functions of the fascia lata is given: 1. It forms the sheath or envelope of the most important walking muscles of the thigh; during progression the tension of this fascia (through the gluteus maximus and tensor vaginæ femoris) is of the utmost advantage; through the same muscles it steadies the head of the femur in the socket. 2. It checks adduction of the extended thigh through the ilio-tibial band. 3. It checks outward rotation of the extended thigh. 4. It assists the hamstring muscles and the sciatic nerve in checking flexion of the extended limb. 5. It checks a tendency to hyperflexion of the thigh upon the abdomen. 6. It contributes largely to man's ability to stand at rest. 7, After reduction of a dislocation at the hip-joint the fascia lata and the untorn portion of the capsule are our main reliance in retaining the head of the femur in place. If the feet are tied together, the fascia, and nothing else, presses the head into the socket. 8. After fracture of the neck this ilio-tibial band is relaxed during adduction. 9. As adduction tightens the ilio-tibial band and abduction relaxes it, the latter position is voluntarily assumed in the early stage of hip disease. 10. As flexion of the extended limb tightens the fascia lata and drives the head into the socket, this manœuvre elicits pain in the early stage of hip disease.

In considering the sciatic nerve and hamstring muscles in relation to luxation, Allis shows that if the femur is abducted at right angles with the pelvis the leg must be flexed to relax the nerve and the hamstring muscles. If, however, the femur is carried still farther outward, the head may burst through the capsule and be dislodged inward. In this case the nerve, of course, escapes; but should the head be shifted from the position of thyroid luxation to that of dorsal luxation there is danger to the nerve, since there is but one possible path for a dislocation inward to take in order to become a dislocation outward, and that is between the hamstring tendon and the socket; and since the tendon of origin of these muscles is within half an inch of the socket, and the nerve is nearer, if anything, under no circumstances can the head be circumducted and carried outward without traumatism, more or less severe, to the nerve. If the sweep of the knee through which this may be effected be a large one, and especially if there be sufficient extension of the leg on the thigh to shorten and make tense the nerve, then there is great danger that the head will pass between the nerve and the tendon.

If such a condition be suspected, the fact may be ascertained by having an assistant push upward upon the knee in the direction of the long axis of the shaft of the femur, while the surgeon, by extending and flexing the leg, will find that the nerve may be alternately tense and relaxed in the popliteal space if it be over the neck, and the head out of the socket. In such a case the successful reduction of the head will release the nerve, but the traumatism may have been so severe that a prolonged neuritis or a partial or complete paralysis may result. If the head, in its transit from within outward, pass between the nerve and the socket, the former

may be bruised a little, but not detached from the tendon, and will lie, after dislocation, between the head or neck and the tuberosity.

When dislocation of the neck occurs, the danger of hooking up the nerve through the efforts at reduction will be greatly increased if the head in passing outward catches up the nerve and tears it from its attachments. This is no random statement. Bigelow, Morris, and Johnson have caught it up in experimental work, and Koons did it in actual practice.

If the nerve be hooked up during the reduction, the following conditions will be present: The nerve will cross the front of the neck and lie beneath the untorn parts of the capsule and the tendon of the psoas muscle; it then descends through the rent in the muscular partition to the adductor magnus, beneath which it descends to the popliteal space. At least three inches of the nerve are taken up in this detour, and hence the thigh must be flexed on the pelvis and the leg on the thigh, to accommodate them to the shortened nerve.

If the dislocation occur through flexion, adduction, and rotation inward, the capsule may yield and the head may escape outward and downward without touching the pelvis in the descent. In such cases Allis has seen the head fall directly upon the nerve, from which it can slip to either side.

In considering the mechanics of reduction, Allis describes an exceedingly ingenious and seemingly practical way of fixing the pelvis and apparently gaining full control over the femur. In describing the phenomena of dislocation, the author gives special directions for cleaning out the socket, having frequently observed in his work that so much detached muscular material has been carried into the socket during the course of reduction as to give the restored limb a constrained position. If any portion of the capsule is torn off, it must be the pelvic, and Allis holds that all foreign substances which enter the socket must enter its lowest segment. It is clear that the side of the head that drives the capsule before it into the socket cannot be made available to remove it; this must be done by the opposite side; hence, if the capsule has been pushed into the socket from the dorsal aspect, the first step is to flex and abduct, while if the entrance has been made from the thyroid aspect the femur must be flexed and adducted to accomplish the same end. After engaging the inverted capsule the femur should be rotated inward to tighten the Y-ligament and drive the head down into the socket, while at the same time the knee is raised and the foreign matter is removed from the socket. The success of the method will be apparent by the free and unembarrassed motion of the femur. From the experimental standpoint Allis would urge upon every one the importance of testing the degree of extension and adduction after every reduction.

Allis lays down as an axiom that every dislocation must be restored through the steps in the reverse order of the displacement. For the replacement of the head by direct steps in inward dislocation he offers the following directions: 1. Flex and abduct the femur. 2. Make traction outward. 3. Fix the head by digital pressure and adduct.

The medical profession has long practised, with variable success, methods

somewhat resembling that which has just been described. Authors recommend: 1. To flex and adduct the thigh. 2. To make perpendicular traction upon the knee, and follow traction by adduction. 3. To make traction with adduction, using the foot in the groin as a fulcrum. 4. To place the patient astride a bed-post, using it as a fulcrum while extension and adduction are made. 5. To make traction and adduction while an assistant with a fillet passed between the thighs makes traction upward and outward. All of these have been recommended, but success in their employment does not depend upon the scientific application of the principle. In all adduction is made a prominent feature; but adduction, if attempted too early, defeats its own end. He does not favor reduction by the indirect method,—*i.e.*, rotation. In considering the reduction of dislocation outward, Allis calls attention to the striking resemblance between two very diverse conditions,—viz., a dislocation primarily inward into the thyroid depression, but which has by secondary influence been rotated outward so that the foot points outward and backward; and another, dislocated primarily outward, but which by reversed action also yields a foot turned outward or even slightly backward. As these two conditions are the result of forces directly opposed to each other, their reduction will evidently require equally diverse methods. In neither form of dislocation will there be evidence of decided fixation, nor will the limb refuse to lie parallel with its sound fellow. Extreme outward rotation in which the inside of the foot tends to look outward—the heel forward and inward—is hardly possible in any condition save that of a primary dislocation inward, with external rotation, the head being controlled by the Y-ligament, which is untorn. The outward rotation of everted dorsal is rarely beyond rectangular eversion. To determine whether the case in question be an everted dorsal, let the operator make a gentle attempt to rotate still farther outward. This will be checked because the Y-ligament lies in front, and external rotation will make it tense. Not so with the "thyroid reversed"; in this case the Y-ligament lies behind, and rotation, after the foot looks backward, can still be increased. If the foot look backward or outward, find the head; to do this, locate the inner condyle,—it points in nearly the same direction as the neck. After this locate the great trochanter; it will lie internal to the dividing line between the two divisions of the bone, when the head has been dislocated primarily inward; but if the head be dislocated primarily outward, the trochanter major cannot lie internal to this line. Lastly, make direct pressure upon the head. If it be a reversed dorsal, the head will sink; if a shifted thyroid, the upper end of the femur will have a bony support; if it be a dorsal with eversion only, the head can be felt by direct pressure; if it be a shifted thyroid, the trochanter can be felt as well as the head. It must be evident, therefore, that retracing the last step of dislocation is not a simple or unimportant matter, and that a confident rational procedure will only be based upon a knowledge of the path taken by the head. As we are now dealing with dislocations outward, the first thing to do with an everted dorsal is to convert it into an "inverted dorsal." To do this, flex (this will relax the Y-ligament), abduct, and rotate inward.

The operator should observe carefully that the head follows the manipulation; if it does, he has retraced the last step of dislocation and is ready to undertake the second step. In the second stage of dislocation the head left the region of the socket and fell outward and downward until arrested by the yet untorn part of the capsule; hence, to retrace the second step, lift. To complete the second stage the head must be turned inward to the region of the socket, and it should be noted that the tendon of the hamstring muscle and its attendant, the great sacro-sciatic nerve, are directly in the way.

This is a most critical moment, for the head must be turned in to the region of the socket, and has no other path than between the tendon and the socket. To do this while the limb is lifted vertically with the leg flexed at right angles to the femur, which relaxes the tendon and nerve, turn the leg as a crank downward and inward until the heel looks footward. Do not use violence. If obstruction is experienced, it cannot at this stage lie in the capsule; it cannot lie in anything over which violence will prevail. It will lie in one of the three things: either the head strikes bone, in which case it must be lifted higher; or it strikes the tendon, or the nerve. In case it strikes the tendon it can be readily shifted, and the escape of the tendon may be followed by a similar escape of the nerve. The author has frequently caught them in succession, and has so caught up the nerve as to flatten it over the head, and being spread out twice its original size it has barred his progress to the socket. Therefore, he urges caution at this stage, for if the nerve be caught and force applied it will effectually bar all entrance to the socket, slip off the head and escape, or slip off the head upon the neck of the femur, from which it can with difficulty be disengaged.

If the head has met with no obstacle in rotation, it is now ready for the last step. The head of the femur rests upon a ridge between the outer and inner planes. It has reached its present position by being lifted to a level with the socket and rotated obliquely beneath it. There are three courses open to it now: it can fall outward, pass inward into the thyroid depression, or ascend obliquely upward into the socket. There are two ways for accomplishing a happy replacement: The first is by traction. By this means the knee is lifted skyward, which relaxes the remnant of capsule while an assistant with his thumbs makes direct pressure upon the head in the direction of the socket. This may reduce it; if not, the operator may bring the knee down in extension, the assistant still keeping up the pressure upon the head. The manœuvre should not be attended with violence or dispatch. The surgeon, if he encounter resistance, should be warned by it, and retrace and modify his course. Usually the head will pass noiselessly into the socket. The second, or direct, method is to employ the Y-ligament of Bigelow as a fulcrum to drag the head into the socket. The reader will bear in mind the position of the head: it lies below the socket, and must be directly obliquely upward and outward. If now the knee, with the leg flexed, be carried directly downward in extension, the remnant of untorn capsule (Y-ligament) will be made tense and the head be lifted into the socket. Should the head slip outward upon the dorsal aspect, it must be

replaced by lifting, and, instead of extending the knee directly downward, it should be a little abducted and then extended. If, on the contrary, the head slip inward into the thyroid depression, then the knee should be adducted and the Y-ligament tightened a little by inward rotation. If now extension be made, the head will be directed in the course of the socket.

Allis ascribes failure of reduction to lack of skill or facilities in the operator; obstacles that prevent the head from entering the socket; obstacles pushed into the socket by the head; the sciatic nerve hooked over the neck of the femur. If the nerve has been caught up, the immediate effect will be flexion of the thigh upon the pelvis, owing to the sudden shrinking of the nerve. There will be imparted to the limb a springing motion which it can get in no other way.

Diagnosis is founded upon a tense, cord-like nerve in the popliteal space. The operator has but one course to pursue, namely: 1. Redislocate the femur; patient supine. 2. Extend the thigh. 3. Flex the leg on the thigh to relax nerve. 4. Turn the ankle of the flexed nerve out until the leg is horizontal; the head will now look perpendicularly downward. 5. Shake, rock, jar, adduct, and abduct, with a view to disengage the nerve from the neck and make it drop down below the level of the head. 6. Rotate the head into the socket without making the nerve tense, *i.e.*, by not flexing the femur.—*Therapeutic Gazette*, July 15, 1896.

SPRAINED ANKLES*

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In view of the frequency of occurrence of these accidents, the painful and distressing symptoms they provoke, and the unfortunate results frequently following their inefficient treatment, it would seem that sprains have failed to receive the attention they merit from the profession at large. Our most prominent authorities, including Gross and the American *Text Book of Surgery*, are contented with a very brief sketch—two to three pages devoted to the entire subject. In our medical societies it is seldom that we hear the subject mentioned, except, perhaps, when it is brought up as a point in differential diagnosis.

With these conditions in view, therefore, I shall venture to ask your attention, for a short time, to some remarks on the subject of sprains; and more particularly sprained ankles. Gross says: "A sprain is the wrenching of a joint, in which its ligaments are severely stretched, if not partially torn, and more or less injury is done to the soft parts around. The joints most liable to sprains are the ginglymoid, or those which admit of motion principally in two directions, as the knee, ankle and elbow." The symptoms familiar to you all, are pain, impaired or total loss of motion, sense of faintness caused by shock to the system; after a time

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swellling and tenderness, and sometimes an indistinct perception of crepitation strongly simulating fracture, depending on a deposit of plastic matter.

The hinge-like anatomy of the ankle-joint, its peculiar susceptibility to sprains on that account, and the frequency of its injury, naturally render sprians more interesting here than in other parts. Who has not suffered from a sprained ankle? Who has not often witnessed the same accident befall his friends? and, speaking professionally, who has not numbered among his patients victims of this frequent injury?

Consulting the authorities on the subject of treatment, from Erichsen to Gross, Wyeth and the *American Text Book*, we are advised to keep the part absolutely at rest, apply soothing embrociations, or strong liniments; and under no conditions allow the limb to be used. Among the laity, it is common practice to apply masses of moist earth, or brown paper immersed in vinegar, to the injured part. The *American Text Book*, among the latest authorities, says: "Free active and passive motion of the joint from the first, as has been strongly advised by some, is painful, and cannot be otherwise than injurious when the sprain is a severe one. By far the best treatment, as a rule, is immobilization of the joint by the application of a plaster of Paris bandage. If applied soon after the accident has occurred it will very much lessen congestion, hemorrhage and effusion, and diminish the time of confinement." Gross had a far better idea of the treatment, and, indeed, somewhat foreshadowed later ideas when he said: "The limb, weakened by the previous suffering, requires tone and support, and there is nothing so well adapted to promote this object as the careful and judicious employment of the roller. Sometimes the bandage may be advantageously replaced by adhesive strips applied after the manner of dressing indolent ulcers."

Use is the condition for development of all the powers of the mind and body. Facility of action comes by habit. Inactivity and idleness induce torpidity and effectually retard growth of every kind. Exercise in all its variety, bodily and mental, is the instituted means for the methodical development of all our powers, under the direction and control of the will. In like manner, "motion," as an eminent authority remarks, "is the proper stimulus of a joint, as air is of the lungs, or food of the stomach; and when after any injury it is too long neglected, serious consequences are sure to arise."

This is an age of progress—despite the lamentations of pessimistic writers. Advancement is the watchword of the times, and in nothing is it more apparent than in the realm of medicine and surgery, whose devotees, the world over, expend their genius and energy to lengthen life by lessening suffering and conquering disease. "The mad dog rushing through the crowded streets no longer leaves a trail of death behind him. The serpent no longer revenges, with murderous fangs, the curse that has made him crawl forever in the dust." Medical science is no longer baffled by such poisons. Aye, more, it can give surcease from pain, deaden physical nature to the surgeon's knife, and lull to slumber those who lie awake all night and do not go to sleep at morn." "Beneath its magical touch suffering sighs itself to sleep and dreams." The word "incur-

able" is gradually disappearing from the physician's vocabulary, and he stands no longer aghast and helpless before diseases however dangerous, and operations however great and appalling.

The entire scientific world to-day stands excited and expectant over the wonderful possibilities suggested by the Rœntgen ray. It is impossible yet to predict the results which may in future ensue from this new field of scientific research. Already we are amazed, and yet, doubtless, the present discoveries are but an index of what the future has in store.

While scientists the world over are bending their energies in honorable and praiseworthy efforts at developing new facts in the line of penetrating the secrets of the human system, we practitioners may still find time to discuss improvements in practical medicine and surgery. In this connection, some time ago, Dr. Gibney, in the *New York Medical Journal*, advanced some new ideas in the treatment of sprained ankles, which are very reasonable, practical, and worthy of consideration. The experience of numerous observers since then has verified his statements, and, as one of those who have used his method, I am before you to-day to advocate it and prove its efficacy. The treatment, according to Gibney, "involves no loss of time, requires no crutches, and is not attended with any ultimate impairment of functions." The method is as follows: A number of strips of rubber adhesive plaster about nine to twelve inches in length, and of appropriate width, are prepared. I then proceed thus, *not* following exactly the method of Gibney. Beginning at the outer border of the foot, near the little toe, the first strip partially encircles the joint and ends behind the foot. The second strip is begun on the inner side of the foot and is applied on the opposite side, nearly meeting the first step behind. Other strips are applied in like manner, each one overlapping the last, and crossing its fellow of the opposite side in front, so that the ankle is snugly and smoothly encased, care being taken not to completely encircle the joint with any one strip. After having bound the foot firmly, it is well to add one broad strip running around the foot, from the internal side of the leg down the internal side of the foot across the plantar surface and up the outside of the leg, "as much as possible to take the place of the middle fasciculus of the external lateral ligament, which is so often the one most injured. It is a good plan to place a pad of absorbent cotton over the external malleolus and in the fossa below, to prevent undue pressure and chafing. Any one of the injured ligaments may receive a similar reinforcement from an extra strip. I then apply a roller smoothly over the entire surface, allowing it to remain until the plaster takes firm hold.—*Internat. Jour. of Surgery.*

In the diagnosis of renal tumors the cystoscope plays an important role, more especially with reference to determining the side on which the sound or diseased kidney is situated.—*Robb.*

I wish to urge a systematic examination of the kidneys as a routine, and especially in chronic affections of the bladder and lower urinary tracts. Whenever there are symptoms referable to the bladder, the kidneys ought to be interrogated.—*Winslow.*

MEDICINE.

IN CHARGE OF

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CARCINOMA OF THE PANCREAS.

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GENTLEMEN,—We have recently had in Stephen Ward two patients who have died from carcinoma of the pancreas, and as that is not a common malady it seemed to me that we might well consider it to-day. The histories of the cases are briefly as follows:

CASE 1.—A man aged forty-three years was admitted on June 1st, 1896, for great pain in the upper part of the abdomen and wasting. He had had syphilis. Otherwise his previous history was unimportant. This illness began three months previously with loss of flesh and pain in the abdomen. On admission the patient appeared wasted and looked distressed and ill. There was much tenderness on deep pressure in the upper part of the abdomen, but the recti were so rigid that no satisfactory examination could be made. The whole body was most carefully examined, but nothing further that was abnormal could be detected. The diagnosis of malignant disease of the pancreas was suggested. After he had been in hospital a couple of days an anæsthetic was given to facilitate an examination of the abdomen, but nothing abnormal could be felt. During the first fortnight he gained seven pounds in weight. On July 3rd a hard lump could be felt in the abdominal wall on the right side at about the level of the umbilicus. It was clearly in the wall and felt as though a florin were let into the wall underneath the muscles. There was little doubt but that this was a carcinomatous nodule and the inference drawn at the time was that this was a secondary deposit in the peritoneum. During the ensuing week other lum s were felt in the various parts of the abdominal wall, and about this time the patient began to lose flesh rapidly, and died exhausted on July 15th. During the whole of his illness he was much troubled by constipation. The only treatment adopted was that morphia was given to relieve pain and every attempt was made to get the patient to take food. At the necropsy there was a large, hard mass of primary schirrus of the pancreas occupying the whole of the tail of the organ. The pancreatic duct was neither pressed upon nor dilated. There were many secondary growths in the liver, some of them as large as walnuts, and there were many nodules on the parietal peritoneum, so that the abdominal wall had by means of growth become

quite adherent to the liver The peritoneal cavity contained 122 ounces of blood-stained fluid. The head of the pancreas and the glands in the portal fissure were unaffected and the gall-bladder was not dilated.

CASE 2.—A man aged fifty-four years was admitted into Stephen Ward on July 10th, 1896. His previous history was unimportant. The present illness began with diarrhœa. At the end of June, after this had continued a few days, he began to complain of pain in the upper part of the abdomen. A medical man gave him some medicine, which stopped the diarrhœa. On July 10th he felt very faint and soon after vomited, bringing up, it was said, half a pint of blood. He was at once brought to the hospital. On admission he was very collapsed and blanched, and was too ill to be examined in great detail, but as far as could be made out there was an increased sense of resistance just above the umbilicus. He was not wasted, and the heart, lungs and urine were all healthy. Four days after he again vomited a large amount of bright red blood and during the next four days he remained very weak. On July 18th he had a very severe attack of hæmatemesis and passed blood per rectum. About twenty-four hours after this he sank and died. The diagnosis was thought to lie between cirrhosis and carcinoma of the stomach. At the necropsy the stomach and intestines were full of blood. The head and tail of the pancreas were quite healthy, but the centre was occupied by a large, hard, solid mass of carcinomatous growth which was adherent to the stomach and had ulcerated through it at a spot on the lesser curvature two and a half inches from the pylorus, and it appeared certain that the blood had come from this ulcerating mass of growth. There were one or two secondary nodules in the stomach close to the primary growth and also one or two in the kidneys. The portal fissure was free. The gall-bladder was not dilated.

The second case is altogether so rare that I think we shall learn most if we begin by studying the first case. The problem we had to solve was what could be the matter with a middle-aged man who was wasting and had great pain in the upper part of his abdomen. So few were his symptoms that it was suggested that he was suffering from that disease called ' anorexia nervosa," in which patients who have no organic disease take very little food and waste very much. They are to be treated by rest, isolation, massage, and over-feeding. But not only were the great local pain and tenderness strongly against such a view, but you must always remember that rigidity of the abdominal muscles means organic disease underneath them. This is a most important sign. Only this week we examined a patient in Mary Ward whose abdominal wall was so rigid that we could learn nothing as to the condition of the structures underneath it. We gave an anæsthetic and then felt a large malignant mass growing up from the pelvis. Having decided that our patient had some organic disease in his abdomen, we next tried to find what would cause his symptoms. Intestinal tuberculosis would have given rise to diarrhœa. Renal tuberculosis shows itself in the urine. Neither tuberculosis of the intra-abdominal lymph glands nor peritoneal tuberculosis causes intense pain, and the latter gives rise to peritonitis, of which the patient showed no signs on admission. Some of you suggested aneurysm

and a very good suggestion, too, especially as the patient had had syphilis. (You will remember a man in Stephen Ward last spring who was on account of pain in the renal region thought to have either renal calculus or growth, but he turned out to have an aneurysm of his renal artery.) However, the most careful examination, even under an anæsthetic, failed to discover any aneurysm, so we were driven to the belief that there must be an intra-abdominal malignant growth. The next thing to decide was the organ in which it was situated. There was when the man came in no evidence that the growth was in the stomach, intestines, liver, suprarenal capsules, or spine, for we examined him for symptoms of malignant disease of each of these, and the rigidity above the umbilicus showed it was high up in the abdomen. Therefore, all that was left to us was the pancreas, and I particularly want you to remember that, in its early stages at any rate and sometimes during the whole of the patient's life, the only signs of malignant disease of the pancreas may be wasting, rigidity of the abdominal muscles, severe deep-seated pain and tenderness, and vomiting; and the last, as in the case before us, may be absent. So true is this statement that, in spite of the fact that after an anæsthetic no tumor of the pancreas could be felt, although in this patient the walls relaxed so completely that the abdomen became very easy to examine thoroughly, yet we all held to the original suggestion of malignant disease of the pancreas. Some, if I remember rightly, thought it was against the diagnosis that the patient gained a few pounds in weight. If the evidence of malignant disease is strong do not let a slight improvement make you change your opinion, for rest in bed and good food will often lead to a gain in weight which, as this case showed, is only temporary. The development of peritoneal malignant nodules went a long way to confirming the diagnosis, for malignant disease of the peritoneum is almost invariably secondary.

It must appeal to you as a striking fact that with so few symptoms the diagnosis of malignant disease of the pancreas can be made.

I have looked through our hospital records for the twelve years 1883-94, both inclusive, and during that time nearly 6,000 post-mortem examinations have been made. On 99 occasions the pancreas has appeared to the demonstrator of morbid anatomy to be diseased, and the following list gives the frequency with which the various morbid conditions have been found: cirrhotic, congested, or hard pancreas, 20; primary malignant disease, 19; small or atrophied pancreas, 16; secondary deposits of growth in pancreas, 11; fatty pancreas, 8; malignant growth of other organs adherent to pancreas, 7; cysts of pancreas (including one case of hydatid), 4; pancreatic calculi, 3; floor of ulcer of stomach adherent to pancreas, 3; tubercle of pancreas, 2; dilation of ducts not due to growth, 2; floor of duodenal ulcer formed by pancreas, 1; abscess of pancreas, 1; œdema of pancreas, 1; and ruptured pancreas, 1. We have had one case of hæmorrhagic pancreatitis since this list was drawn up.

The cirrhotic, congested, or hard pancreas was nearly always associated with increased venous pressure due to cardiac, pulmonary, or hepatic disease, and was as far as is known of no clinical interest. In thirteen out of the sixteen cases in which the pancreas was small diabetes was

present, and beyond the symptoms of this disease there was during life no evidence that the pancreas was diseased. When this organ was the seat of secondary deposits or hard growths of other organs adherent to it the symptoms of the primary disease quite overshadowed those due to the affection of the pancreas. The fatty pancreas was generally associated with old age, and although pancreatic calculi, pancreatic cysts, and hæmorrhagic pancreatitis are extremely interesting, yet we cannot stop to consider them to-day, and the above list shows that they are so rare in comparison with primary malignant disease that that is the disease of the pancreas most interesting from a clinical point of view. The growth is almost always a scirrhous carcinoma. The medullary variety is rare, and sarcoma is excessively rare. The proportion of males to females is two to one, and most patients are somewhere between forty and sixty years old. You will notice our two patients illustrate all these points.

It is extremely important for you to bear in mind that the growth is nearly always in the head of the gland, and as a result of this the common bile-duct is pressed upon, the bile-ducts dilate, the liver becomes enlarged, the gall-bladder is, in at least a third of the cases, distended, and it may be felt as a tumor projecting from underneath the liver, the patient may be jaundiced, his stools clay-colored, and he may show signs of cholæmia. Sometimes, when the original growth itself fails to produce these symptoms, they are present and owe their origin to enlargement of the portal glands from secondary deposits. Another but less frequent mechanical effect of the presence of the growth in the head of the gland is that the pancreatic duct is pressed upon, and that part of it which is behind the point of pressure dilates. Bright, more than sixty years ago, pointed out that the motions may in carcinoma of the pancreas contain large quantities of fat; it may be so much that it forms a thick scum, particularly about the edges of the vessel containing the fæces. As blocking of the common bile-duct is very common, and this symptom is so rare, it is probable, as I believe Professor Gairdner teaches, that it is most likely due to the fact that the pancreatic secretion is prevented from reaching the duodenum, and failure to digest fat may perhaps explain what I have noticed—namely, that patients suffering from malignant disease of the pancreas may waste extremely rapidly.

To return to our two cases, remember that they were quite exceptional in the position in the pancreas of the growth and in the absence of secondary infiltration of the portal glands, and that these anatomical peculiarities will explain the absence of the symptoms we have been discussing. Less important symptoms of carcinoma of the pancreas are that the patient usually suffers from constipation, due no doubt in many cases to the absence of bile in the intestine. His feet may swell either from pressure of the growth on the vena cava or because he is, like other sufferers from carcinoma, very anæmic. Sometimes it is possible to feel the growth as a hard, tender mass with a transmitted pulsation from the aorta and stomach resonance in front of it; but you should remember that in thin subjects it is occasionally possible to feel the pancreas even when it is not the seat of growth. I have felt it as a hard

mass when it has been cirrhotic from backward pressure due to bronchitis. In very rare instances a carcinoma of the pancreas forms a tumor large enough to be seen. The patients do not usually live sufficiently long for the growths secondary to that in the pancreas to produce marked symptoms unless they are in the portal glands. They may occur in any organ, but a usual site is the liver

Our second case is very uncommon, because it is rare for the pancreatic growth not to be in the head of the organ, and still more unusual for it to ulcerate into the stomach and kill by hæmatemesis; but we have had other cases at Guy's Hospital in which it has attached itself to neighboring organs; for instance, it has adhered to the stomach, and in one case under my own care it implicated the secondary part of the duodenum, constricting it, and perhaps helping to explain the very severe vomiting and constipation from which the patient suffered. You will find that Bright described a case in which a pancreatic growth ulcerated into the duodenum. Not long ago a patient was admitted for intestinal obstruction due to the adhesion of a pancreatic growth to the colon, and I have specimens showing how it may involve the semilunar ganglia, but I do not know that this causes any symptoms.

Neither of our two cases showed any fat necrosis, but you should always look out for it in any form of disease of the pancreas, and we have had an instance at Guy's Hospital of its occurrence in association with pancreatic carcinoma.

The only treatment possible is palliative. Morphia is usually required for the pain, vomiting is often especially difficult to deal with, and you must give the patient all the food he can take.—*Lancet.*

THE GLYCOGENIC FUNCTION OF THE LIVER AND ITS RELATION TO DIABETES.

Although the occurrence of sugar in the urine, as an abnormal constituent has long been known, it is only within recent years that its true pathological significance has been at all understood. Even to-day not a few regard diabetes as primarily and essentially a disease of the kidneys, just as is Bright's disease, but pathologists have come to know that in diabetes the trouble with the kidneys is usually entirely secondary—they merely separating from the blood the excess of sugar in it—and the hypertrophy and weakness of these organs. which is frequently to be observed, results from the undue labor thrown upon them. The blood normally contains a small amount of sugar, and, as Bernard demonstrated, it is only when this amount exceeds about one-third of one per cent. that it begins to be separated by the kidneys and excreted in the urine. Analyses show that less sugar is contained in venous than arterial blood, hence there is obviously a destruction of sugar going on in the living economy. In fact, sugar is a tissue food and is consumed by living muscle, producing heat and energy.

Sugar in the urine, then, arises from an excess of sugar in the blood,

and an excess of sugar in the blood may result either from the increased introduction or production of sugar within the body, or from its diminished consumption by the tissues; and while it is probable that both causes co-operate in producing and perpetuating diabetes, the increased gain of sugar to the system is doubtless the most potent factor.

That the liver is a source whence sugar is discharged into the circulation is evident from the fact that the portal venous blood contains, in the intervals of digestion, only one part of sugar per 1,000, whereas the hepatic venous blood contains two parts of sugar per 1,000, and, considering the great quantity of blood passing through the liver, it can readily be seen that a large amount of sugar is daily yielded by the liver into daily circulation. The question now arises, whence comes this sugar? The ultimate source of sugar to the system, as of all bodily constituents, is the food, and by glancing for a moment at the products resulting from the digestion of an ordinary meal of beefsteak, bread and pudding—consisting of fat, albumen, starch and cane-sugar—the manner in which sugar is elaborated and disposed of by the system can be demonstrated and the important sugar distributing function of the liver explained. Aside from the fat, all the elementary food constituents just mentioned as occurring in our typical meal take part in the production of sugar within the organism. In the alimentary canal the starch is converted into maltose and dextose by the action of the saliva and the pancreatic juice, the cane-sugar is resolved into glucose and levulose by the intestinal juice, while the albumen is converted into peptones by the gastric and pancreatic juices. The sugar and peptones thus formed are then absorbed by the intestinal veins, but instead of being carried directly to the general tissues to be utilized by them in quantity and furnished at irregular intervals, the excess of diffusable sugar and peptones absorbed during digestion is intercepted by the liver, wherein it is stored up and gradually given out again into the blood during the intervals of digestion. Sugar, however, is not stored up in the liver as such, but as glycogen. Glycogen ($C_6H_{10}O_5$), which plainly belongs to the carbohydrate group, is an isomer of starch and dextrine. It occurs as a white powder, is soluble in water, yields mahogany brown color when treated with iodine, and may readily be converted into glucose by boiling with dilute sulphuric acid, and by the action of ferments.

That glycogen is formed from sugar within the liver, and that sugar is intercepted by the liver on its way from the intestines to the general circulation, may be demonstrated by experiments. The amount of glycogen in the liver is greatly reduced by fasting and greatly increased by a full meal. The amount of glycogen present can be determined by mincing up the liver and boiling with water, when the glycogen will be extracted and may be precipitated by the addition of alcohol to the aqueous extract. Tscherinow found that in a starved animal glycogen disappeared entirely from the liver, but quickly reappeared when sugar was injected into the stomach. Schopffer showed that when sugar is injected into the crural vein it appears in large quantities in the urine; but when injected slowly into the portal vein it is taken up by the liver and not a trace is found in the urine; while if it is interjected more quickly into

the portal vein, so that the liver cannot transform the sugar as rapidly as it is supplied, a portion passes into the general circulation and appears in the urine.

It was Bernard who demonstrated that when the portal vein is ligated so that the blood finds its way from the intestines to the heart and body by means of the collateral circulation without passing through the liver glycosuria occurs. As already intimated, it is only while sugar is being absorbed from the intestines that much is present in the portal blood, for, as Kuhne has observed, there is, in the intervals of digestion and absorption, generally less sugar in the blood of the portal vein than that of almost any other vessel in the body.

Concerning the transformation of peptones into glycogen, there is abundant evidence to show that this does occur within the liver. The liver of a dog which has fasted for twelve hours does not yield nearly as much glycogen as that of one which has had only a meal of raw meat during the same length of time. The patient with diabetes mellitus may eliminate the carbohydrates from his dietary for weeks and still continue to pass sugar in the urine.

As the general tissues are not provided with means for storing sugar, nor with facilities for utilizing at once the entire amount of sugar normally absorbed from the intestines during an ordinary meal, embracing variety of diet, the value of the glycogenetic function and the provision of a storehouse in the liver is plainly apparent. When for any reason there is a deficiency in the conversion of sugar into glycogen in the hepatic cells, sugar is supplied to the tissues in excess and glycosuria occurs. Usually the starch and cane-sugar contained in the food are not converted by the saliva, pancreatic and intestinal juices into diffusible sugar with sufficient rapidity to supply sugar to the liver more quickly than it can convert it into glycogen; but it is evident that from disorder of the liver leading to the imperfect glycogenesis, diabetes may result. This form of diabetes is distinguished by the sugar appearing in the urine only during the digestion of starch and sugar, by being absent during fasting and during the use of an exclusively meat diet. Imperfect glycogenesis sometimes occurs during fevers, and in cases of poisoning by arsenic and phosphorous.

The reconversion of glycogen to sugar for the use of living cells is affected through the agency of a diastatic ferment which is present in minute quantity in the liver and in larger amount in the blood. The sugar thus gradually formed from the stored up glycogen is carried from the liver by the outgoing blood to the general circulation. This process appears to be largely under central nervous control, and numerous experiments made upon animals, as well as general observations upon the human body, show that upon stimulation of certain nerve trunks the production of sugar within the liver and the yield to the circulation augments, while when others are stimulated the sugar production is diminished. When the circulation through the liver is accelerated, either by an increase in the general arterial pressure or by dilatation of the vessels of the organ itself, there is an increased formation and distribution of sugar, accompanied by its appearance in the urine. The same is true if there is too

large a proportion of the transforming ferment present in either liver or blood. The glycosuria thus occasioned persists as long as the conditions occasioning it remained uncorrected.

Even when the glycogenic function is properly carried out in the liver, sugar may occur in the urine from its lessened combustion or metamorphosis by the tissues and the consequent overloading of the blood. As the starch is to the cells of the plant, so to the muscles of man is nutrient sugar, and when from whatever cause the tissues are unable to utilize the normal amount of sugar conveyed to them by the blood, there is a failure of due nourishment and of vital energy.—*The Dietetic and Hygienic Gazette.*

IN a discussion before the N. Y. Post-Graduate Society upon "How much knowledge of ophthalmology should be required of the general practitioner," Dr. Francis Valk, a professor in the Post-graduate School, made the astonishing statement "that it was better that a man practising in a large city should have *no knowledge whatever* of the diseases of the eye, for in these cities it is considered necessary that the ophthalmologist should practise exclusively within his specialty, and hence *all* cases pertaining to that specialty should be referred to him." Why not go a bit farther, Dr. Valk, and make the same claim for the aurist, gynecologist, dermatologist neurologist, etc., etc.? It would so simplify the labor of the medical student that no further legislation would be needed, and would send to the Post-graduate so many men who wished to gain access to this *caste* of specialists.

Granting Dr. Valk's statement, he is convicted of urging medical men who have no intention of practising a specialty to pursue at his school studies of which he says they should have no knowledge whatever.

Dr. Valk cites a case where a general practitioner treated a red and swollen eye for conjunctivitis, using astringents and atropine, but without benefit. When he saw the case he at once found that it was really dacryocystitis. This was one on the general practitioner.

We recall a case where an eminent specialist, treating a patient for specific irido-choroiditis, pushed the iodides until he produced iodism, the effect he was seeking, and did not recognize till after the man's three children and wife had also the same affection that his iodism had resolved itself into ordinary measles. This was one on the specialist.

The endeavor to define the two classes of specialists and general practitioners too closely is fraught with too much danger, to safely make a rash statement like that of the Professor.—*The Atlantic Medical Weekly.*

CREOSOTE IN GONORRHŒA.—The *Meditzinshoie Obozrenie* reports fifty-eight cases of gonorrhœa in the male, successfully treated with injections of emulsion of creosote, two to ten per thousand. It is added that "the discharge quickly decreased, became mucoid and then ceased altogether;" also that the patients recovered more rapidly than under ordinary methods and without complications or relapses.

It is claimed that creosote exercises an anæsthetic action on urethral mucous membrane.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF
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AUTO-INTOXICATION.

BY SAMUEL WOLFE, A.M., M.D., PHILADELPHIA.

The key to modern pathology is intoxication. A symptom-complex being given, to find the alteration in structure and the cause of that change in a definite chemical substance would be ideal.

In the present state of science, while much in this direction has been accomplished, there remains still a large field to explore, and a great mass of evidence to study and weigh.

Whether the *materses morbi* is a poison formed in the laboratory of the chemist, the resultant of the organic life of a vegetable parasite, or the product of physiological changes within the organism and destined for excretion, the class of facts which present themselves ultimately to the pathologist bear a close relation to each other.

To the therapeutist, too, there must occur the same thoughts in all instances, of primarily an antidote, then an eliminant, and, finally, means to reconstruct and repair organic damage.

A product of physiological activity, which is intended for excretion but is not eliminated, might be equally considered as an auto-intoxicant, with one which is excreted and then reabsorbed. But the ordinary usage of the term auto-infection seems intended only to cover the latter class. To be still more exact, we must remember that these excretory products come in contact with foreign matters on the surfaces of the excreting organs, reacting with which special deleterious compounds may be formed, and then absorbed.

Thus the cutaneous tract affords lodgment for impurities of all sorts, and is constantly exposed to the atmospheric air. The respiratory tract is only in a lesser degree affected in the same way. The urine in contact with the epithelial detritus from the bladder undergoes ammoniacal decomposition, when retained, and the genital tract of the female is very often a hot-bed for putrefaction.

But probably more than all, the alimentary canal affords the best source of auto-infection. With the constant introduction of ill-selected food and drink, and the innumerable deleterious articles that civilized man contrives to offend it with, there is no mystery surrounding this fact. But even with this abuse, the chances for escape might be comparitively good if peristalsis were to continue sufficiently active. An indi-

gestible or over-heavy meal in the normal individual will cause either vomiting or a prompt crapulous diarrhœa. But many repetitions of such indiscretions soon result in a tolerance of these irritants, and in the slow weakening of the muscular coats of the stomach and intestines, with the chronic indigestion and constipation with which we are all so familiar.

With these conditions established, the constant absorption of intoxicating and infectious matters from the intestinal tract is not only possible, but highly probable.

Of the exact nature of the toxins which are thus formed and find an entrance to the circulation, the knowledge is at the present time very incomplete. Studies in this direction are being made by many able pathologists, but the difficulties are great, and the progress consequently slow.

The appearance of indican in the urine in increased quantity is held to indicate auto-toxicosis. Connected with this is a disturbance of the ratio of the normal sulphates of the urine. Preformed sulphuric acid is found absent while the combined and ethereal sulphates are increased.

Clinically the intoxication causes a train of symptoms, for the greater part referable to functional disturbances of the nervous system. It is reasonable to assume that the inherent condition of the nervous system, the constitution or temperament of the individual, may co-operate in the *rôle* of an etiological factor. Thus, while some individuals may suffer severely, others may, under the same degree of intoxication, be but slightly affected. The observation may, however, be applied to all forms of nerve poisons.

Wherever such cerebral symptoms as somnolence, lethargy, stupor, or coma may appear, this source of their production should be considered. In typhus fever, lead-poisoning, peritonitis, and obstruction of the bowels these symptoms are apt to be prominent, and in all of these diseases it has been experimentally found that the quantity of indican in the urine is increased. This same increase of indican has also been observed in trichinosis, catarrh of the stomach, hæmorrhage into the stomach, cholera, carcinoma of liver and stomach, and in diseases of the small intestine generally. In this whole class, nervous symptoms indicating disturbance of the higher centres are generally prominent at some time in the course of the disease.

A case of typhoid fever, which at this writing is not yet convalescent, has had jactitation, carphologia, and active delirium, all in an extreme degree. These symptoms seem to bear a curious relation to the temperature, being always most pronounced when the temperature was least inclined to rise. Thus, at a temperature of 101° to 102° F. there was great restlessness and agitation for days together, in spite of the administration of sedatives, while when the temperature stood for a few days at 103° F. and above, the patient was comparatively quiet. These vacillations in the temperature occurring at least three times thus far in the course of the disease, with always the same relation to the nervous symptoms, the significance of their connection is very forcibly established. Recognizing the possibility of their being due to auto-intoxication, I administered cathartics in several instances, and each time with decidedly beneficial effects.

The symptoms of neurasthenia, if not actually produced by auto-infection, as I believe they are in some instances, are without doubt maintained and fostered by it to a very considerable degree.

Recent researches have shown that this etiological factor enters very extensively into insanity. While I cannot draw on my own experience here, the following case, which very closely simulated general paralysis of the insane, illustrates the extreme degree of nervous break-down which can result from this cause.

B., aged 49, Englishman by birth, a carpenter by occupation, was admitted to the Samaritan Hospital on October 23rd. Two weeks before admission he had been seized with violent general convulsions, which recurred frequently during a period of twenty-four hours. They were epileptiform in character. Previous to the seizure he had been able to follow his usual occupation, but had for some time complained of weariness, especially in his lower extremities, and had been somewhat dejected in spirits. The day following the convulsive attack, he seemed to be as well as prior to it, but a day later he became delirious and unable to walk, or even to stand.

At the time of admission his mental state was bad. He was confused and wandering in all his ideas, and could not find words to express himself without being prompted. The condition was not a true aphasia, and it was afterwards learned that he had all his life had a halting speech. The speech may be said to have been ataxic. He could, on account of the mental condition, give no satisfactory account of himself, but managed to convey to the attendants some facts about his former life. His face was much suffused, and his look apathetic. The pupils were somewhat contracted and irregular in outline. Ophthalmoscopic examination revealed a bilateral slight papillitis. There was incontinence of urine and feces.

An examination of the upper and lower extremities revealed some weakness of the muscles, but no wasting and no sensory disturbances, so far as could be ascertained, in his present mental state. The knee-jerks were absent, and the superficial reflexes also. There was extreme incoordination of both lower and both upper extremities, and it was owing to this fact that he was unable to stand. The tongue was heavily coated and dry. The temperature and pulse were normal, and remained so throughout the whole period of the disease, except on one day, when it suddenly went up to 103° F., and remained there for a few hours. He was given full doses of quinine for a few days, as soon as this was observed, and no subsequent rise occurred.

He remained in the condition above described for about three weeks, with some improvement in his mental condition towards the end of that time, as well as in the inco-ordination. During the next two weeks he improved rapidly, so that at the end of that time he could walk perfectly well, could touch any part of the body as directed with his finger-tip, had no incontinence, no mental obscuration, or difficulty of speech, beyond what was natural with him.

He had been treated with daily doses of salines, thirty grains daily of potassium iodide, and small doses of ergot for about two weeks. He was then put on silver nitrate, one-quarter of a grain, three times a day.

There was no history of syphilis attainable, and the symptoms in the case hardly point that way. There was no marked tremor of lips and tongue, such as is a very constant symptom of general paralysis, but otherwise the case very closely resembled a paresis of the ascending variety, and of very rapid onset and progression. I regard it as due to auto-intoxication, as neither syphilis nor paresis would have cleared up under the treatment.

It is highly probable that migraine, hysteria, and even epilepsy are frequently associated with this cause.

In these and many of the other neuroses the course of the symptoms would indicate an accumulation of something that gives rise to a "nerve-storm," a seizure, or a discharge, by whatever name it may be called. The indications also point to an elimination or conversion into comparatively harmless products of the offending material during the attack. In this way we have a periodicity established, which belongs more or less to all these troubles, and which occurs independent of medicinal influences.

A few days ago, a young Hebrew came into my office, stating that for two years he had suffered from a curious round of changes in his feelings and disposition. For a period of two to three weeks he would feel perfectly well, happy, and energetic, then with the suddenness of a cloud floating over the sun he would become melancholy, dejected and irritable. His head would ache almost constantly, his muscles would tire very easily, and a heavy and oppressive feeling was present in the hypochondria. He cannot sleep at night, and his feet and hands are cold. At the end of two or three weeks this state would pass, almost as suddenly as it came on, into his previous good health, only to be followed after the same interval by another period of gloom and incapacity. His bowels were very sluggish, and his tongue somewhat furred.

A transition of types like this into migrane or epilepsy is quite often observed. I have seen attacks of migraine displace epilepsy and the reverse, where the disease in either instance was typical in all its features.

That purgation is an essential part of the treatment in these cases is evident. The salines of the less drastic type are the best. A heaping teaspoonful of Rochelle salts, or a wine-glass of natural purgative water, three times a week, taken on rising in the morning, are available. In some special cases a blue pill or a few grains of calomel with sodium bicarbonate can occasionally precede the saline in the evening.

The mineral acids are useful either alone or in connection with small doses of sodium salicylate phenacetin, acetanilide, or antipyrin.

Of course, the diet, the habits, and the occupation of the patient should be properly regulated.

HYPODERMATIC PURGATIVES.—The *Journal de Médecine de Paris* is responsible for the statement that an aqueous solution of caffeine and chloral, equal parts (one each to ten of water), when employed hypodermatically in doses of fifteen minims, is an efficient purgative.

We would very much like to know what physiological action is assumed to take place in such case. Reasoning physiologically and analogically, a hypodermatic purgative is practically impossible.

OBSTETRICS AND GYNAECOLOGY.

IN CHARGE OF

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SYMPTOMS, DIAGNOSIS AND TIME FOR OPERATION IN RUPTURED TUBAL PREGNANCY.*

BY JOSEPH PRICE, M.D., PHILADELPHIA, PA.

Careful study of the physiologic, anatomic and pathologic conditions of cases coming within our experience, while such study has not altogether removed from controversy very many subjects connected with gynecology, it has led some of us to positive convictions and to the adoption of well defined lines of practice. We are concerning ourselves less about theories, though we are not able to dispense with them altogether, but we are growing to base our rules of practice more upon the results of our observations and experiences. Pathologic systems are continually changing, one system succeeding another in quick and confusing succession. There should be no element of mere conjecture in our everyday working experience. After the surgeon has discovered and relieved conditions which his experience, his observation, has taught him to detect with almost mathematical certainty, the pathologist can step in and display his science in explaining cause and effect.

The occurrence of tubal pregnancy is regarded in widely different light by the theorist and the surgeon who has learned to deal with it practically, and who has accordingly come to understand the manifold directions in which speedy disaster may troop down upon unfortunate women subjected to this calamity. The argument that many cases get well of themselves, in the presence of the multitude of disasters possible, and in the light of the horror of some of these very recoveries, is so puerile that the surgeon of practical and positive bent can not regard them with complacency, nor consider that those who advance them have any authority from which to speak more positive than the vaporings of fancy. As to the cases of aberrant gestation we are to consider them both as anatomic and moral. They may have their origin in anatomic loss of structure or in perversion of function, such as absent ciliary motion in the epithelium, or in absolute disease of the tube, or, as I have had more than once called to my attention, in the fright of illegitimate conception.

*Read in the section on Obstetrics and Diseases of Women, at the forty-seventh annual meeting of the American Medical Association, at Atlanta, Ga., May 5-8, 1896.

Causation can rarely be determined with certainty: there are many agencies which operate to produce the trouble. The character of the attack, the whereabouts of the patient, at what employed, are always interesting considerations. The attacks are exceedingly sudden. A vigorous woman may in a few minutes look pale and exhausted and have a very feeble pulse. Any effort to change position increases the pain, and she will start with a scream; the pain may be quite general and not confined wholly to the abdomen. The rational symptoms of pregnancy are not very marked. Morning sickness is never very prominent. For weeks they may complain "on and off" of a sharp pain in one groin or the other. These pains are followed by bloody discharge; the odor of the discharge is also characteristic. Later the sharp and severe pain is followed by faintness and increased flow mixed with shreds and débris. Ruptures with large effusions are easily recognized upon examination. The finger detects an ill-defined boggy tumor, the uterus enlarged and posterior, or pushed well to one or the other side. If the rupture is quite recent it may be difficult to determine a tumor of any character; there is simply a feeling of general resistance. In examinations made one or two days after a rupture it is easy to define the irregular boggy tumor, also to locate the uterus, determine its size, position and mobility.

There is very frequently associated with these cases a history of sterility, inaptitude to conception and mild forms of pelvic disease, abortion or doubtful abortion antedating the pregnancy some four or five years, absence of one or more periods. Very frequently there is peculiar nervous disturbance, morbid apprehensions, irritability followed by acute pain, severe and recurring, pain of a variety rarely associated with other troubles. Usually the pain is followed by anemia or symptoms of concealed hemorrhage; the common symptoms of loss of blood are prominent. It is then other systems develop, intra-pelvic or perineal tumor due to clot or pressure, there is characteristic vesical and rectal disturbance, peculiar central fulness of the abdominal walls. Slight distension, tympany and marked tenderness rapidly follow the first rupture, recurring hemorrhage and all symptoms become more marked. The restlessness of the patient is alarming; probably 25 per cent. die in twenty hours where there has not been prompt and skilful surgical relief. Hemorrhage is the real cause of death; they die both early and late in the history of the trouble; early, from rupture of the tube, late or at term in primary sections done for saving both mother and a viable fetus. The non-contractile tissue of the tube favors free and continuous hemorrhage. Ruptures on the outer half of the tube or about the pavilion extremity are the least fatal. As the rupture nears the uterus the hemorrhage is most fatal. These points have been demonstrated in the experience of every one who has done any considerable number of sections. So marked has been my own observation of these facts that I commonly allude to it in my cases, exhibiting it as an object lesson to those witnessing the section, and these facts have led me to classify the cases; first, ruptures in the outer half of the tube belong to the surgeon; the second or inner half go to the coroner or coroner's physician. Rarely can you improve volume, quality and frequency of the pulse in such cases where all the symptoms are as I have narrated.

It is my conviction, fortified by my own experience, counting now one hundred and twenty-eight cases with five deaths, that the operative treatment is the only one to be considered. I am fully satisfied also that these pregnancies are rarely, if ever, in the broad ligament. In the case of fetus gone to term, in my own direct and indirect experience, the child has in no instance been in the broad ligament. I regard the chief danger of the operation as that of hemorrhage. If the patient is found so weak as to render operation an almost certain failure, I resort to salt water transfusion in order to restore the arterial tension.

Rupture with fatal hemorrhage is the most frequent termination; pyemia, septicemia and peritonitis are much rarer.

Relating to such cases, Goupil says: "It is but true, I fear, that we are authorized in saying that all cases of intra-peritoneal hemorrhage arising from extra-uterine pregnancy end in death, and although death has been delayed for six months, it is wholly exceptional. This was absolutely true in my own experience until I was emboldened—I say it—until I was shamed by Mr. Hall Wright's case into opening the abdomen and saving their lives."

The consensus of opinion by those who are competent to speak from results must be for early operation. But there are, in addition, those cases to be considered in which, after primary rupture, the fetus has still lived and advanced a full term. Here the question is one of operation with the view of saving both the life of the mother and that of the child. If one is to be lost, it is my belief that it should be that of the child; that the life of the mother is of paramount consideration. The chief danger to the mother in the operation at term in tubal pregnancy is the removal or accidental detachment of the placenta. It is easy enough to remove the child and save it, if it is viable, by operating at or near term; but the danger of fatal hemorrhage from vascular walls that can not contract, as do the uterine structures, is the vital question of the operation, so far as the mother is concerned. If we do not remove the placenta the risk of septic infection still remains.

The old and non-surgical rule of leaving the placenta to slough away is too dangerous and prolonged to be practiced. The placenta should be removed in every case, or washed and hermetically sealed, thus favoring its healthy digestion and avoiding gangrenous separation and detachment. Secondary rupture of broad ligament, discharge of placenta and fresh adhesions, or the second implantation or grafting of the placenta, have never occurred in my experience, nor have I any knowledge of such cases except that conveyed through the literature on the subject Basing the conclusions of my judgment upon my own clinical experience, I must hold to the tubal origin and the intra-peritoneal rupture. All that follows tubal rupture is within the pelvis and peritoneal cavity, and not within the leaflets of the peritoneum forming the broad ligament.

(To be continued.)

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NERVOUS DISEASES AND ELECTRO-THERAPEUTICS.

IN CHARGE OF
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DISTURBANCES OF SENSATION IN VISCERAL DISEASE.

Dr. Henry Head, medical registrar to the London Hospital, publishes in *Brain*, 1896, Part II., a paper of 124 pages, in continuation of previous articles published in the same journal in 1893 and 1895, with reference to pain at points more or less remote from the seat of lesion. Having treated the subject in the previous papers from the topographical standpoint, considering the various painful areas, irrespectively of their grouping and of their relation to the diseases in which they occurred, in the present paper he takes up pain at a distance in diseases of the heart and lungs, with special reference to the location and grouping of painful regions in special lesions.

A question of nomenclature arises at the outset. Dr. Head uniformly speaks of the pains in question as "referred" pains. It seems, at least, open to question whether this is an altogether appropriate term. When, for instance, in a cardiac lesion, pain is felt in the arm, it is natural to assume that the pain is erroneously located. But Dr. Head finds that such pains are uniformly accompanied by tenderness in the secondarily painful region, and makes this a diagnostic criterion between "local" and "referred" pain in certain cases. Thus, pain felt in the region of the heart is "local" if there be no hyperalgesia of the skin in that region; "referred" if slight pressure is painful.

Now, when we find that in a spontaneously painful area the pain is aggravated by pressure that would not, in a healthy condition, be painful, are we not justified in believing that, whatever may be the cause of the pain, that is its seat, so far as it can be said to have a seat outside the brain? It seems to us that "transferred," or "associated," would better characterize the relation of such pains to the lesion which occasions them. This, however, is a matter of secondary importance so long as the facts are understood.

It would scarcely be practicable, within reasonable limits, to give a full exposition of the associations between special lesions and definite painful areas as described by the author. Under the head of diseases of the heart he takes up the topics of aortic valvular disease, aneurism of the aorta, mitral valvular disease, enlargement of the liver, produced by failure of the right side of the heart, and paroxysmal pain of cardiac origin (angina pectoris), discussing the distribution of the referred pains in each. Thus, in a case of aortic obstruction and regurgitation, there

was pain, anteriorly, over the second left intercostal space; posteriorily, close to the vertebral border of the angle of the scapula, and headache over the eyes, with superficial tenderness over the painful areas in the chest and above the left eye. In a case of mitral stenosis the pain was in the ar as supplied by the left sixth and seventh dorsal segments and the left temple, with s ight corresponding spots of tenderness on the right side. In a case of acute enlargement of the liver, due to cardiac failure, there was tenderness in the right eighth, ninth, and tenth dorsal areas, extending from the spinal column behind to the median line in front, and over the right half of the occiput.

The author believes the pain in aneurism of the aorta to be much more frequently referred than local, *i. e.*, due to pressure on adjacent organs, nerve-trunks, etc., and gives cases showing the distribution of pain and tenderness in the areas supplied by nerves which could not have been pressed upon by the tumor.

The second chapter is devoted to the theoretical consideration of the conditions in the heart which give rise to referred pain. In valvular lesions he believes it to be due to over-distension. Thus, in aortic regurgitation, the blood returns into the left ventricle as soon as it relaxes, giving it no rest, and any slight exertion is likely to bring on an attack of pain. When the distension of the ventricle results in mitral insufficiency, allowing the blood to be emptied into the pulmonary circulation, the pain disappears.

The distribution of the pain he endeavors to explain by the sensory supply to the various portions of the heart and the developmental relations of its nerves. The localization of the pain in lesion of the various segments of the heart is such as to indicate that the distribution of its nervous supply dates back to the time when the heart was a straight, tublar organ, of which the most anterior portion was the bulbus aortæ, the median portion the ventricle, and the auricle the hindmost.

The third chapter is taken up with pain in diseases of the lungs. The only disease of these organs, so far as appears, in which he finds referred pain, is phthisis. Pneumonia in itself is painless; the pleurisy which is often associated with it gives rise to local but not referred pain. In phthisis no pain accompanies rapid and complete consolidation of a lobe or its excavation, but multiple foci of disease, scattered through relatively healthy tissue, are apt to be associated with superficial pain and tenderness, which the author ascribes to the sensory terminations of the nerves being irritated rather than destroyed. The areas of pain and tenderness appear on the same side of the body and scalp as the lesion to which they are due. An attempt is made to determine the painful areas corresponding to lesions of different parts of the lung.

The gastric disturbances of phthisis are thought to be, in many cases, due to reflex disturbance.

The author's views are illustrated by a profusion of clinical cases, with diagrams showing the location of the pain in each. The work evidently represents an immense amount of labor. One interesting theoretical question is not touched upon. Leaving aside the question of routes of nervous connection, and assuming for the time, that for instance, the

hyperalgesic areas in the thorax, arm, and scalp, in a case of aneurism, are innervated from common or intimately related nuclei, by what mechanism does distension of the aorta cause tenderness or pressure in the skin of the arm.

Two possibilities suggest themselves—an alteration in the peripheral nerves, rendering them unduly sensitive, or in the ganglionic centres, rendering them painfully impressible by normal impulses. According to current theories this would be merely locating the disturbance in different parts of the same neurons.

If we were warranted in assuming that the heart and the various related areas are supplied by collateral branches of the same neurons, it would seem to account for pain in one part of their distribution being referred to another part, but not, in the present state of our knowledge, for the interpretation of normal impulses in the area supplied by the healthy branches being interpreted as pain.

PATHOGNOMONIC SIGNS OF CONGENITAL SYPHILIS.—P. Silex (*Berliner Clinische Wochenschr. Pædiatrics*). The following is taken from an address delivered before the Berlin Med. Gesellschaft:

The author recognizes three characteristic signs of congenital syphilis. The first relates to the eyes, the second to the teeth, and the third to the skin. As the only real pathognomonic symptom relating to the eyes, he mentions a chorioidea areolaris, in which are found scattered over the fundus, particularly in the neighborhood of the macula, black points and patches, which present here and there white spots of different size, and larger areas with a black border. These represent atrophic colonies in the chorioidea, and pigment patches derived from the pigment of the stroma and pigment epithelium. The retina also being involved, vision in these cases is always very much impaired. Mercurial inunction and exhibition of potassium iodide effected no change. In a few cases the process, which is rare, remained unilateral. Of the numerous deformities of the teeth usually mentioned he only considers that one form pathognomonic where the permanent upper incisors present a central excavation denuded of enamel, beginning on the surface for mastication and continuing upward in the shape of a crescent. As a sign, which is only found in congenital syphilis, he considers the well-known scars radiating outward in straight lines, which do not confine themselves to the corners of the mouth or to the lips, but radiate further to cheek and chin. The histological examination of a case, which was particularly marked, proved that these lines are not scars in the anatomical sense, as papillæ, glands and vessels were well preserved in the tissue under consideration. Very likely the peculiar furrow-like appearances, which are called pseudo-scars by him, are due to a muscular tension of the skin. These three kinds of conditions, which were demonstrated by the author both on the subject and through illustrations, are considered by him absolutely pathognomonic. So that the presence of even one of them will lead to positive diagnosis of congenital syphilis.

NOSE AND THROAT.

IN CHARGE OF

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EUCAINE AS A LOCAL ANÆSTHETIC IN THE SURGERY OF THE THROAT, NOSE AND EAR.

[PRELIMINARY COMMUNICATION.]

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Since the discovery of the anæsthetic action of cocaine by Niemann, and its introduction into practice by Koller, that alkaloid has held its own among the more valuable drugs of the *Pharmacopœia*, despite its disadvantages. But the untoward effects which have unexpectedly followed the use of cocaine have led those constantly using it to realize that its action is uncertain, and that it is therefore as well to keep antidotal remedies at hand.

Quite recently a rival has been introduced in the shape of eucaine, which is said to possess the anæsthetic action of cocaine without producing any of the toxic effects. The importance of a drug which could make good its claims to those properties it would be difficult to overrate, and, in order to arrive at its clinical value, we have lately used eucaine exclusively in throat, nose and ear surgery.

Eucaine was first investigated by Dr. Gaetano Vinci, under the direction of Professor Liebreich. At the same time that Vinci's results were communicated to the Hufeland Society in Berlin, Professor Emile Berger, in Paris, was engaged in an extensive clinical examination of the drug. Both Vinci's and Berger's investigations, however, deal chiefly with eucaine from its ophthalmological aspect, one which is not within the province of this communication to deal with. A third observer in this branch of surgery is Professor Deneffe, of the University of Gand, Belgium. Dr. Hal Foster recently published some short notes on the Use of Eucaine Hydrochloride in the Nose and Throat, giving two cases —one of turbinate hypertrophy reduced by galvano-cautery, one of tonsillotomy. He also mentions other cases. His results were completely successful.

Dr. A. L. Fuller used eucaine (by the endermic injection of 20 minims of a 10 per cent. solution) with complete success for the removal of a mole. He mentions also a case in which it was used to anæsthetise a tuberculous ulcer for curetting. Parlaghy, of Paris, is reported to have demonstrated the powers of eucaine before several physicians in the Assistance Publique de Paris, who proclaimed it an ideal anæsthetic. Other dental surgeons who have experimented with it are Kiesel, Warnekros, and Wolff, of Berlin; their verdicts are uniformly favorable. We shall have occasion to refer again to Kiesel's work.

Eucaine is the methylester of benzoyl-n-methyl-tetra methyl-gamma-oxy-piperidine-carboxylic acid. Its physical characters were thus defined to the Berlin Pharmaceutical Society by G. Merling.

Eucaine base crystallises from ether or alcohol in large glistening prisms, which melt at 104° C. Eucaine hydrochloride crystallises from methyl alcohol solutions in large glistening efflorescent prisms containing two molecules of methyl-alcohol and from watery solutions in glistening leaflets containing one molecule of water of crystalisation and permanent in the air. Eucaine hydrochloride dissolves in about ten parts of water at room temperature.

Vinci carried out certain physiological experiments with eucaine on mice, rabbits, and dogs. He found that the instillation into the eye of a rabbit or dog of a 2 to 5 per cent. solution produced complete anæthesia in one or two minutes, which lasted on an average ten or twenty minutes. A slight hyperæmic action was thereby developed, sometimes accompanied by slight symptoms of irritation of the conjunctiva. Eucaine acts upon the central nervous system at first as an excitant, later on in toxic doses producing paralysis. Small doses of eucaine increase the reflex excitability of mice and rabbits. Doses of $\frac{1}{3}$ grain per kilo body weight cause tonic and clonic convulsions, which last several seconds and recur at moderate intervals. An increase of the dose causes paralysis, under which the animal dies. Should the dose be resisted, the paralysis following upon the convulsions totally disappears. Vinci found that the pulse is gradually slowed by subcutaneous and intravenous injections of small and moderate doses to the extent of 20 to 30 beats per minute. There is no increase of blood pressure.

Berger's investigations corroborated those of Vinci upon all important points. The former demonstrated the action of eucaine to be analogous to that of cocaine, with the following important differences:

1. Eucaine is less toxic.
2. It slows the pulse.
3. It does not affect the pupils.

Dr. Charteris, Professor of Materia Medica and Therapeutics at the University of Glasgow, read a paper before the Royal Society of Edinburgh, in which he described experiments corroborating those of Vinci and Berger.

Before concluding this short review of the work done by others, we should like to quote the following remarks of Kiesel summarising the advantages of cocaine:

1. The heart is not influenced in any way; with nervous patients I have often had the opportunity of observing that the pulse before the operation had risen to 120 or 130, whilst after injection it rapidly fell to its normal rate without irregularity, and maintained its normal character.

2. Anæsthesia is more extensive than with cocaine, both as regards time and locality. In my experience the anæsthesia has in individual cases extended to the muscular tissues.

3. Solutions prepared with steri'ized water and maintained at the room temperature remain always clear even without the addition of carbolic or salicylic acid, and never beco me flocculent like those of cocaine.

One more advantage—considered by Berger to be one of its most valuable properties—is that eucaine can be sterilised by boiling without undergoing decomposition.

In investigating the uses of eucaine in the surgery of the throat, nose, and ear, we feel that the points to which we should endeavor to direct special attention are:

1. The strength of solution required.
2. The rapidity, intensity, and extent of the anæsthesia.
3. The general and local action upon the circulatory system.
4. The after-effects.

Although upon all these points the opinions we have been enabled to form are favorable, we wish it to be clearly understood that they are but tentative, and our final verdict is withheld until we have given the drug a more extended trial.

The number of occasions on which we have employed eucaine is thirty-two, and they may be classified as follows:

A. Examinations:			
	1. Ear		2
	2. Laryngoscopy and posterior rhinoscopy		4
B. Operations:			
I. Ear:	1. Myringotomy		4
	2. Furuncle		1
II. Nose:	1. Galvano-cautery		11
	2. Spurs		4
	3. Polypi		1
	4. Other growths		1
III. Throat:	Tonsillotomy		4
			—32

Of these, 19 were males varying in age from 4 to 42, and 13 were females from 6 to 70 years. Moreover, 6 of the patients (3 males and 3 females) had experienced the local anæsthesia of cocaine, a fact to which we shall revert later.

1. *Strength of Solution required.*—The solutions used were in three strengths, 2, 5, and 8 per cent. Of these, we found that the 2 per cent. is quite sufficient for anæsthetising the uvula, etc., for laryngoscopy or posterior rhinoscopy, and for aural examinations. In one case (Case 11, male, aged 21) seven drops of a warm 2 per cent. solution dropped into the left ear and retained (with the head inclined to the right) for 5 minutes, caused complete anæsthesia of the membrana tympani lasting nearly 20 minutes. Another man (Case xxvii, aged 42), who was most intolerant of laryngoscopy, permitted a complete examination. In the latter case, the 8 per cent. solution was first used, but on the next occasion the 2 per cent. was found sufficient, as also for Case xxxii and for Case xxix (posterior rhinoscopy). The 5 or 8 per cent. solutions have been used for operative procedures on nose, throat, and ear; and although in Case iv an aural furuncle was incised without pain under the 5 per cent., and in Cases iii, vi, vii, and x the same solution sufficiently anæsthetised the membrana tympani to permit of myringotomy, it was generally found

that for all operative measures on throat, nose, or ear the 8 per cent. solution was the more reliable. Furthermore (as will be noted below), eucaine being in our experience (so far) devoid of unpleasant after-effects, it is of advantage to use the stronger solution. In Case 1 an attempt was made to cauterise an inferior turbinate body under a 2 per cent. solution, thus obtaining our only unsatisfactory result, the case requiring the 5 per cent. before proceeding.

Methods of Application Used.—1. For the ear, warm instillation retained for from five to eight minutes by inclining the head to the opposite side. 2. For the nose, either simple swabbing or the insertion of a pledget of cotton-wool (soaked in eucaine) for five to ten minutes. 3. For the throat, simple swabbing with a pledget of cotton wool. On no occasion was eucaine applied by means of a spray.

2. *Rapidity, Intensity and Extent of Anæsthesia.*—We have found that the anæsthesia is slightly slower in onset than that of cocaine, and that the cases required from five to ten minutes to elapse before they were ready for operation. When established the anæsthesia is fully equal to that of cocaine, and in this our opinion is endorsed by the patients who had previously experienced the latter. The duration of the anæsthesia is from ten to twenty minutes, fifteen minutes being the most usual. In the extent of the anæsthesia we have had no reason for dissatisfaction. We found that when the membrana tympani was anæsthetic, the tympanum and ossicular chain were equally so. A pledget of wool passed into the anterior half of the naris rendered the inferior turbinate body anæsthetic in its whole extent. Similarly, simple swabbing of the tonsils rendered them anæsthetic throughout.

3. *Action upon the Circulation.—a. General.* So far our investigations as to the effect of eucaine on the pulse are inconclusive. In many instances the observations must be excluded as unreliable, on account of the mental influences in the patient due to operation. In the few instances however, in which the observations may be considered reliable, the pulse has remained the same in rate and character throughout. In no instance have we noted any slowing of the pulse. In only three cases have we seen any unpleasant effects upon the circulation following an operation or examination under eucaine, and in each of these there was sufficient reason to otherwise account for the trouble without attributing it to the drug. We have judged it best to relate briefly these three occurrences.

CASE XV.—J.W., aged 25, male, has been suffering from chronic suppurative otitis media for twenty years. A warm 8 per cent. solution of eucaine was introduced into both ears and retained for ten minutes to allow of an examination with the probe. The anæsthesia was complete, but on touching a small granulation on the inner wall of the left tympanum the patient fell from the chair in a swoon, his face becoming livid, his lips blue, and his pulse small and irregular. He revived as soon as he was laid upon the floor, and then broke out into a profuse cold sweat. Later he stated that with the swooning sensation he experienced one of intense nausea, and thought he would vomit. He had experienced similar sensations before, while syringing the left ear. The unpleasant symptoms in this case were undoubtedly due to the combined cardiac and gastric aural reflexes.

CASE XVI.—A. C., aged 70, female, suffering from a large new growth in the right nostril. A piece was removed for microscopic examination after being swabbed with 8 per cent. eucaine. The pulse was 72, and remained unchanged in rate or character

throughout The anæsthesia was complete. After the operation the patient complained of feeling faint. She had, however. been suffering from attacks of profuse epistaxis for five months, and was also the subject of aortic insufficiency.

Case xxv.—A.A., aged 28, female.* A nasal polypus was removed from this patient under an 8 per cent. solution of eucaine. Immediately after the operation she became faint, but did not lose consciousness. Pulse 108. This patient was in a very low state of health, having active syphilitic ulceration of the soft palate, and active tuberculous deposit at both apices, while she was also suffering from anæmia and debility, consequent upon a recent miscarriage.

b. Local.—Our observations upon the local effects of eucaine on the circulation are at present incomplete, several points having arisen requiring further consideration. We have not, however, found it to cause hyperæmia of the turbinate bodies, in fact in several cases it has induced slight ischæmia. In two cases it has been noted that a turbinate body which before the application was in contact with the septum was not touching it in any part when anæsthesia was established. Of course, any ischæmia observed was not to be compared to that caused by cocaine. This is a point upon which we hope to make further observations in the future. In no case has there been the hæmorrhage after an operation which so often forms an unpleasant feature of cocaine anæsthesia. We would here wish to mention an apparent effect upon the salivary secretion. In the first case (xxvii), in which an 8 per cent. solution was used to anæsthetise the uvula for laryngoscopy, a considerable increase of saliva was noted. On another occasion, when a 2 per cent. solution was used, this feature was absent. A similar increased salivation was noted in Case xxxii under the 2 per cent. In Case xxix (posterior rhinoscopy) the saliva was not increased. Out of four tonsillotomies, in only one was increased salivation noted. This is an important point for decision by future observation, as its upholding will establish another point of difference from cocaine (which decreases the saliva secretion), and may detract from the usefulness of eucaine in operations upon the oral cavity.

4. *After-effects.*—With the exception of Cases xv, xvi, and xxv, we have not noted a single instance of what might be construed as an unpleasant after-effect; the three excepted cases have been already related and explained. We have alluded to 6 cases as having experienced the effects of cocaine. In the first of these (Case iii), a female, aged 55, the use of cocaine for the removal of a nasal spur had caused such alarming syncope as to necessitate the employment of ether and amyl nitrate. This case has since been three times under eucaine without the least discomfort. The 5 remaining cases all declared that, whilst cocaine had caused unpleasant sensations in the mouth and throat (variously described as "contracting," "freezing," and "numbing") lasting for some hours, eucaine, on the contrary, rendered them anæsthetic to the operation without causing any after-effect greater than (in one case) an unpleasant taste lasting half an hour.

Several points remain for further experience to decide, but we consider that our results so far justify us in continuing the investigation. Eucaine cannot, however, wholly replace cocaine, since the effect of the latter in reducing the size of the turbinate bodies gives it a value as an aid to diagnosis which eucaine does not appear to possess.—*B. M. J.*, 16th January, '97.

PAEDIATRICS.

IN CHARGE OF

ALLEN M. BAINES, M D., C.M.

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THE OPERATIVE TREATMENT OF DISEASES OF THE HIP-JOINT OF CHILDREN.

Dr. T. Pickering Pick in a clinical lecture recently delivered at the Victoria Hospital for Children in London, England, makes the following suggestions: There is no surgeon nowadays who would deny that as soon as an abscess is formed, the time has arrived for operative interference. And it must be understood that in using the word abscess, which is perhaps not a very correct one, but at the same time a very convenient one, I mean to include all those cases where the tuberculous material has caseated and broken down, and formed a curdy fluid, no doubt in most cases mixed with pus from the surrounding inflamed tissues.

When this has taken place, there is no prospect of any amelioration except by the evacuation of the curdy material which has formed. But we should be very sure that there is pus or caseated tuberculous material before operating. I do not agree with Mr. Croft in thinking that it is necessary to incise every swelling in hip joint disease. I have seen many cases with swelling at the hip-joint in which the swelling has existed and remained even for months, and then finally has disappeared, and the child has recovered without any operation or incision being necessary. Therefore make sure that matter is present, and there is any easy way of making sure by the exploring syringe.

In those cases where I have to open an abscess, I always make the incision from a little external and below the anterior superior spine of the ileum, in a direction downwards and inwards in an oblique direction, cutting between the sartorius and the tensor vaginæ femoris, and then between the rectus and the glutei. By this means the neck of the femur and the capsule of the joint may be easily reached and the puriform fluid evacuated. This latter should be done as rapidly as possible, and the abscess cavity scraped and well sluiced out with hot sterilized water or anti-septic solution, so as to get rid of all caseated material as quickly as may be, so as to prevent any more contamination of the wound than is absolutely necessary. A careful exploration should now be made, and the exact condition of things ascertained as far as possible.

The first thing is to ascertain whether the disease began in the synovial membrane or in the bone. In a few cases on introducing the finger

the bone will be found to be quite hard and firm though denuded of cartilage, and on passing a probe it will be found to impinge on hard bone into which it cannot be buried. These, I assume, are cases where the disease has begun in the synovial membrane, and under these circumstances I do not remove the head of the bone, but I do what I call a limited erasion; I scrape away as far as I can all the tuberculous tissue and diseased synovial membrane and flakes of cartilage which remain on the surface of the bones. I then wash out the joint with hot sterilized water or some antiseptic lotion, generally using corrosive sublimate, introduce a drain into the joint, inject some iodoform emulsion, and sew up the wound. I do not do what is recommended by some, turn the head of the bone out of the socket, and then replace it. Subsequent treatment consists in daily flushing, and the fluid which I use is iodine, a drachm of the tincture in a pint of hot water. The joint is thoroughly flushed out with this, and the limb is kept perfectly at rest on a double Thomas's splint. If the discharge continues for six weeks and shows no prospect in becoming thinner or less quantity, then under these circumstances I give up the case as hopeless, and I at once proceed to excise the joint. But if, on the other hand, the discharge becomes less in quantity and thinner in quality, then I persevere in this line of treatment, and in some cases secure a bony anchylosis between the head of the bone and acetabular cavity, and a better limb than I should have gotten by excision. I am bound to confess, however, that in a large majority of cases this fails, certainly in fifty per cent., but my argument is that the procedure does no harm, and that if it succeeds you get a much better limb than you would get if you had excised the head of the bone.

Next we consider those cases where the disease of the hip started in bone, and these, as we have seen, constitute the greater portion of the cases with which we have to deal. The disease may begin in four different situations. By far the most common place for it to begin is in the ossifying tissue of the diaphysis in contact with the epiphysial cartilage; but it may also begin in the center of the cartilaginous epiphysis of the bone, or in the ossifying tissue of the trochanter or in the acetabulum.

In the great majority of cases where the disease has arrived at the stage of formation of abscess external to the bone, that is to say, the stage at which operative interference is undertaken, it will be found that the joint is implicated, and is full of pus. In these cases, in spite of the implication of the joint, I am sometimes disposed to attempt to save the head of the bone, provided there is no evidence of the disease having extended itself to this structure, that is to say, in those cases where the bone is smooth and hard and not in any way eroded.

But in the majority of cases of hip-joint disease where suppuration has taken place, we must excise the joint. For in most cases when the abscess is opened and the parts examined, there will be found to be such evidence of disease in the bone as will make it perfectly clear to the operator that the only way of bringing about a successful issue is to remove the head of the bone.

There are many ways of doing this: one way is by the posterior incision through the glutei muscles—this was the old plan; then, secondly,

there is the plan by the external incision: and thirdly, the plan by the anterior incision to which I have already alluded. The second plan, by the external incision, was in vogue twenty years ago, when surgeons were inclined to advocate a much more extensive removal of bone than is usually adopted in the present day. Of these three plans I give decided preference to the anterior incision, in the first place because it is the most convenient for exploration, and having made the opening to explore, if it is found desirable to continue the operation, it is not necessary to make another incision; and then another advantage of the anterior incision is that no structure of any importance is cut through.

The abscess having been opened in the manner I have before indicated, the parts are flushed out so as to get rid of all tuberculous material as quickly as possible, and then any structures about the joint are cleared with a scalpel, and the neck drawn through with an Adams' saw, and the head removed with a pair of sequestrum forceps. The acetabulum must now be examined by the finger to ascertain whether it is involved in the disease, and to what extent. It and the whole abscess cavity must be thoroughly scraped until every particle of diseased tissue is gotten rid of. In doing this the most useful instrument will be found to be Barker's flushing gouge, which washes away the débris as fast as it is separated. When the cavity is cleaned, it should be dried and a sponge introduced: stitches are then inserted through the edges of the wound, but these are not tied at once. As soon as everything is ready, the sponge is removed, iodoform emulsion is introduced into the cavity, and is allowed to remain there for a minute or two, and is then pressed out by the hands of an assistant, while the stitches are tied. The limb is then abducted, and in this position the wound is dressed. The whole limb is put up in Plaster of Paris or Thomas's splint, or arranged with sand-bags. These cases do not as a rule require dressing for ten days, provided the temperature remains normal: the wound is then dressed and the stitches removed, and that is all that is necessary. The child is, however, to be kept on a double Thomas's splint for three months with the limb in a position of abduction. If the weather is warm, it of course can be carried out of doors, but must be kept flat on its back. After this it may be allowed to use a single Thomas's splint. I make it a rule never to allow a child to put the excised limb to the ground for twelve months after the operation, so as to ensure a firm union.—(*The Clinical Journal*, July 8, 1896.)—*Ann. of Gynæ. and Ped.*, Jan. '97.

Dry papular asquamous eczema, with much itching.

℞

Menthol	gr. ij
Ichthyol	gr. iv. vj
Zinci Oxidi	ʒ j
Lanolini	ʒ iv.
Ungt. Aq. Rosæ ad	ʒ j

Sig. Apply frequently.

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Editorial.

BRITISH MEDICAL ASSOCIATION.

Since our last issue there has been much accomplished in connection with the forthcoming meeting, but most of the work has been of a nature that, while useful, does not lend itself to being chronicled.

Most of all has been Dr. Roddick's journey to England and its result. He was warmly received by the President-elect, and welcomed to the dinner which was given in his honor, in London, a dinner presided over by the President of the Council of the Association, Dr. Saundby, and at which were present many of the old Presidents of the Association, together with Dr. Barnes of Carlisle, the present President of the Association as a whole; Dr. Wilks, President of the Royal College of Physicians; Mr. Macnamara, Senior Vice-President of the College of Surgeons; Mr. E. Taggart, Master of the Apothecaries Society; Mr. Butlin, President of the Pathological Society. Dr. Roddick made an excellent campaigning speech, which was published in full in the *British Medical Journal* of January 23rd.

Evidently the fact that the President-elect ventured to cross the Atlantic in the middle of winter, simply to attend a Council Meeting of the Association, made a great impression.

Until the list of officers is officially declared we cannot, unfortunately, make public the names of those appointed as readers of addresses and as Presidents of the various sections. This much, however, we can say, that the Council at home is determined that there shall be 11 sections: Medicine, Surgery, Gynæcology and Obstetrics, Anatomy and Physiology, Pathology and Bacteriology, Pharmacology and Therapeutics, Public or State Medicine, Psychology, Laryngology and Otology and Dermatology, and that the list of Presidents of these various sections will comprise the names of a greater number of distinguished men than has been the case at any previous meetings of the Association, the meetings in London itself, perhaps, excepted. If we accomplish nothing more, Dr. Roddick, by his efforts in obtaining these Presidents, made it certain that the '97 meeting of the Association must in this respect be most memorable.

We are glad to note that the other colonies of the Empire, even as far away as Australia, are showing great interest in the forthcoming meeting, and that letters received from Australia and the Cape, not to mention British possessions nearer home, such as Bermuda and Barbadoes, show that we are assured that the profession there will help to increase the success of the meeting.

It is a matter of genuine satisfaction, in Montreal, that the efforts made by the Local Executive to render the meeting national rather than local, and to associate the leaders of the profession throughout the Dominion in the work of the Association, is being so highly appreciated.

No steps have as yet been taken to ask for subscriptions outside Montreal, and unless the meeting attains enormous dimensions it is probable that nothing more will be attempted. All the same, it was with genuine pleasure that the announcement was received at the last meeting of the Local Executive that a leading member of the profession in Manitoba had offered no less than $100.00 in aid of the expenses of the meeting.

We are asked by the Secretary of the Museum Sub-Committee to state that although many applications for space in the Museum Building have been received, the space for which tenders are asked will not be allotted until March 27th, in consequence of the necessary length of time required for correspondence with British exhibitors.

With most hearty appreciation of the goodwill shown by the great Canadian railways towards the meeting, we announce that the Canadian Pacific and Grand Trunk Railways have agreed to extend to Canadian members of the Association the privileges granted to foreign members and to guests—namely, half rates. So considerable a concession has never been previously granted and is a sign of the great national importance attached by the companies to the meeting in August. In other words, to quote the words of a joint letter received from Dr. W. E. Davies of the G.T.R., and Mr. D. McNicoll of the C.P.R.: "It has been decided to extend to Canadian members of your Association the same basis of rates to and from the convention, and excursion fares, as we have already advised you we are willing to extend to visiting members from over the sea." Practically every Canadian member can thus attend the meeting and return at the rate of a single fare for the journey and can join the excursions at the same rate.

THE LONDON MEDICAL ASSOCIATION.

The annual meeting of the London Medical Association, held on Monday evening last, was well attended and proved most interesting. The retiring President, Dr. Meek, gave an elaborate résumé of the work done during the past year, and, after thanking the members for the support and assistance given him, expressed the hope that the incoming year might prove, if possible, more successful than that just closing. The following officers were elected for 1897:—President, Dr. J. Wishart; Vice-President, Dr. A. Graham; Recording Secretary, Dr. W. M. English; Corresponding Secretary, Dr. W. J. Weeks; Treasurer, Dr. R. Ferguson.

TRINITY MEDICAL ALUMNI ASSOCIATION.

The annual meeting of the above Association will be held in Convocation Hall, Trinity University, on Wednesday, April 7th, 1897. The programme of the meeting includes the names of men well known to the profession from the United States, as well as from our own Province, so that papers of a high degree of excellence may be looked forward to. The annual banquet will be held in the evening, at which the gold medal offered by the Association for the Thesis of most distinguished merit, written by a member of the Association and read at the general meeting, will be presented to the winner.

The officers, past and present, are to be congratulated on the steady growth of the Association and its present prosperous condition. As in the past, we have no doubt but the meeting will be a pleasant reunion of the graduates in medicine of Trinity.

SANOFORM.

Schlesinger (*Therapeutische Monatshefte Univ. Med. Mag.*) recounts the advantages of sanoform, the latest substitute for iodoform. Sanoform is obtained by the action of iodine on gaultheria oil, and is the methyl ether of di-iodo-salicylic acid. It is a white, odorless, and tasteless powder, and can be heated up to 200° C. without decomposing. It is soluble in 200 parts of cold or ten parts of hot alcohol, and readily in ether, chloroform, benzole, and carbon disulphide, but very insoluble in water or glycerine. It forms with caustic alkalies salts which are sparingly soluble in water. It contains 62.7 per cent. of iodine. The results of its use in surgery and gynæcology are extraordinarily good; healing ensues more quickly and more certainly than with iodoform, signs of irritation are absent, and the drug is both odorless and non-poisonous. Arnheim has published seventy-two cases, including twenty-two of soft sore, twenty of hard sore, six of bubo, sixteen of phimosis, and three of surgical wounds, and finds that sanoform powder renders a secreting ulcer practically dry in two days, the secretion being soaked up by the powder, and forming with it an antiseptic covering beneath which suppuration speedily ceases. It does not appear that the iodine in sanoform is set free by cell activity; on the contrary, it seems to be extremely closely combined. Fifteen grains were injected under the skin of an animal in fine emulsion, but no potassium iodide could be detected in the urine, in which the presence of iodine could only be proved after evaporation and incineration. The drug is very slowly absorbed: it first appears in the urine about twenty-four hours after injection, and does not entirely disappear for about fourteen days, the maximum excretion being from the third to the sixth day. Sanoform can be used as powder, as a 10-per-cent. ointment, or in a 1-per-cent solution in collodion. Schlesinger particularly recommends sanoform gauze (10 per cent.), which, owing to the high temperature at which the drug decomposes, can be easily steril-

ized—a great advantage over iodoform gauze. A further point in its favor is that it contains no coloring matter, and stains neither the tissues nor the bandage.

LARYNGEAL OR WINTER COUGHS.

Walter M. Fleming, A.M., M.D., Examiner in Lunacy, Superior Court, City of New York; Physician to Actors' Fund of America, etc., in giving his experience in the treatment of the above and allied disturbances, in *The Journal of Nervous and Mental Disease*, submits the following:

"In acute attacks of laryngeal or winter cough, tickling and irritability of larynx, faith in antikamnia and codeine tablets will be well founded. If the irritation or spasm prevails at night, the patient should take a five-grain tablet an hour before retiring and repeat hourly until allayed. This will be found almost invariably a sovereign remedy. After taking the second or third tablet the cough is usually under control, at least for that paroxysm and for the night. Should the irritation prevail morning or mid-day, the same course of administration should be observed until subdued. In neuroses, neurasthenia, hemicrania, hysteria, neuralgia and, in short, the multitude of nervous ailments, I doubt if there is another remedial agent in therapeutics as reliable, serviceable and satisfactory; and this without establishing an exaction. requirement or habit in the system like morphine.

"Finally, in indigestion, gastritis, pyrosis, nausea, vomiting, intestinal and mesenteric disorders and the various diarrhœas, the therapeutic value of antikamnia and codeine is not debatable. The antipyretic, analgesic and antiseptic properties are incontrovertible, and therefore eminently qualified to correct the obstinate disorders of the alimentary canal."

ARTIFICIAL PRODUCTION OF AMYLOID DISEASE AND OF CIRRHOSIS OF THE LIVER.

Krawkow's work on the artificial production of amyloid disease by infecting animals with pyogenic microbes was referred to in the *Epitome* of June 22nd, 1895, par. 490. He now records experiments (*Arch. de Méd. Expér.*, 1896, No. 2) showing that, as well as the amyloid changes, a certain degree of cirrhosis of the liver may likewise be produced by the microbe infection. He injected cultures of staphylococcus aureus into fowls and pigeons. In none of the five pigeons could he produce any amyloid changes, though he succeeded in all the fowls, the amyloid change commencing in the spleen. Krawkow finds that any preliminary treatment of the specimens by alcohol sometimes prevents the proper color reaction with methyl violet. Experiments on the effects of extirpation of the spleen in influencing the development of the amyloid changes have not yet yielded decisive results. The bone-marrow of the fowls was very little affected, even when the changes in the other organs had reached an advanced stage. The natural resistance towards amyloid

disease varies considerably, not only in different species of animals, but even in different animals of the same species. Krawkow was unable to produce amyloid disease in frogs, though, as a result of staphylococcus infection, varying degrees of hepatic atrophy or necrosis of hepatic cells were observed. The rapidity with which amyloid disease may follow microbic infection in animals varies considerably, as it does in men. It is recorded that amyloid disease could be made out microscopically in the organs of a boy, aged 17, who died one month after being attacked with osteomyelitis. Amyloid disease has probably often been overlooked in human subjects, because the sections cut for examination have not been fresh. Krawkow failed to produce amyloid disease by introducing the microbes, not into the flesh, but into the alimentary canal. By this means, however, he sometimes produced a cirrhotic change in the liver, and, apparently, even in the spleen and kidneys. Interstitial changes in the liver of animals have been noted by him, with or without accompanying amyloid disease, as a result of chronic infection by staphylococcus aureus, bacillus pyocyaneus, the bacteria of putrefaction, and the cholera vibrio. He has been able to obtain the same hepatic change by prolonged use of a sterilized culture of bacillus pyocyaneus. Krawkow suggests, therefore, that hepatic cirrhosis in human beings may be due sometimes to the absorption of abnormal putrid matters from the intestines. In such cases, alcohol may only play the part of producer of the gastro-intestinal catarrh, which leads to the absorption of the abnormal matter. In respect to the *rôle* of alcohol, Von Kahlden was unable to produce even a commencing hepatic cirrhosis by the use of alcohol in animals, though the kidneys showed hyperæmia, hæmorrhages, and necrosis of cells. Straus and Blocq, however, succeeded in inducing commencing cirrhosis by alcohol in rabbits. Charrin produced a hepatitis in the liver of a rabbit by injecting the toxins of bacillus pyocaneus into the portal vein. Krawkow concludes that many cases of hepatic cirrhosis, supposed to be alcoholic, are really due to the action of microbes.

EXCESSIVE INTESTINAL PUTREFACTION.

Dr. Barclay points out, *Brooklyn Med. Jour.*, that there are two forms of intestinal fermentation produced by micro-organisms, the one of the carbo-hydrates, the other of the proteids present in the gut, and that they are mutually antagonistic to one another. The fermentation of carbohydrates leads to the evolution of gases, and to the formation of organic acids. The gases cause discomfort and the acids interfere with pancreatic digestion, but the products formed are not very poisonous nor irritating. On the other hand, the fermentation of proteid bodies caused by bacteria results in the formation of gases of more varied character, though in some cases no gas may be evolved, and in the production of many derivatives of a poisonous and dangerous action. The fæces are most offensive. In acute cases there are febrile symptoms; in chronic, depression, and nervous affections. In practice, the tests for the ethereal sulphates in the urine are too complicated, but the ordinary color tests

for indoxyl and skatol often afford valuable information. As to treatment, that by antiseptics is often disappointing; of them calomel is the best; a milk diet, with cheese or without, is the surest method of diminishing the fermentation. Salol and sodium salicylate do not act very well. Resorcin, given along with castor oil or magnesia, is frequently very effective. Irrigation of the colon is often of benefit, especially in the case of children. Gilbert et Dominici, by giving a healthy man 15 grammes of sodium and magnesium sulphates, found that they could reduce the number of bacteria in the fæces very markedly. The salts were given before breakfast, and the number of bacteria in the fæces rose from the 67,000 per milligramme of the day before to 272,000 per milligramme. The stool of the day after contained only 55,000, and of the second day following the dose 1,350 bacteria in each milligramme. The purgative had, therefore, acted rapidly in bringing down the number of organisms in the fæces from 67,000 to 1 350 per milligramme

Book Reviews.

A SYSTEM OF PRACTICAL MEDICINE. By American authors. Edited by Alfred Lee Loomis, M.D., late Professor of Pathology and Practical Medicine in the New York University, and William Gilman Thompson, M.D., Professor of Materia Medica, Therapeutics and Clinical Medicine in the New York University. To be completed in four imperial octavo volumes, containing from 900 to 1,000 pages each, fully illustrated in colors and in black Vol. I.—Infectious Diseases. Just ready. Vol. II.—Diseases of the Respiratory and Circulatory Systems, and of the Blood and Kidneys. In press. Vol. III.—Diseases of the Digestive System, of the Liver, Spleen, Pancreas, and other Glands; Gout, Rheumatism, Diabetes and other Constitutional Diseases In active preparation. Vol IV. —Diseases of the Nervous System and of the Muscles; Diseases of doubtful origin, Insolation, Addison's Disease, etc. In active preparation. Per volume, Cloth, $5.00; Leather, $6.00; Half Morocco, $7.00. Lee Brothers & Co., Publishers, Philadelphia and New York. McAinsh & Kilgour, Toronto.

Systems of medicine have been growing in numbers of late, and though much good work has been done, leaving, one would almost think, no room for new work, yet the volume now before us is a proof that medical research has never been so active as at present, for the work was really needed.

This system is intended to be and, so far as we can judge from Vol. I., is thoroughly practical. There are no disquisitions therefore upon Hygiene, Bacteriology, Pathology or Symptomalology, but these subjects are separately presented in connection with each disease, thus facilitating reference and making each article a complete, practical treatise in itself. It is evident from the contents of this volume that much original research and investigation have been undertaken by the authors expressly for this work, the results of which the reader will find both in the text and in the illustrations. The latter have been made a special feature of those articles which admit of such elucidation. Minute details are given in each practical subject, as examination of the blood in malaria and in anemia, the examination of sputa, physical diagnosis of the chest, the localization of disease of the brain, spinal cord, etc. Particular attention has everywhere been bestowed on full directions for treatment, while original prescriptions, formulæ, diagrams, charts and tables have been inserted wherever their admission seemed desirable

The list of contributors to Vol. I. is large, and contains among other names well known in the scientific medical world, those of Osler, Park, Sternberg, West, Welch and Wilson. We are sure that every practitioner who secures the work will find it a safe and trustworthy guide in the daily routine of practice. We heartily commend it to the notice of our readers.

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CHRONIC SUPPURATION OF THE MIDDLE EAR, MASTOID INFECTION, SIGMOID SINUS THROMBOSIS, SEPTIC PNEUMONIA, DEATH.

BY ALFRED J. HORSEY, M.D., M.R.C.S. ENG., ETC., OTTAWA, ONT.

Geo. L——, a strong, hearty farm lad, aged 19 years, who has had a purulent discharge from his right ear, more or less constantly, for twelve years, consulted me on Dec. 24th, 1896, because he had recently suffered considerable pain in the right ear on two or three occasions. There was an offensive purulent discharge from the meatus, which came from the middle ear through a perforation in the membrana tympani, which was occupied by a polypus. There were no local signs over or about the mastoid process, even on pressure, so that the case presented the ordinary conditions of chronic middle ear suppuration excepting the earache, before mentioned, which made him seek relief.

He visited me at my surgery for about two weeks, receiving the usual treatment in such cases, with seeming relief from pain and a lessening of the discharge from his ear, but at the end of a week had a return of severe pain in his ear, so that he could not rest at night, and which was only partially relieved by hot water injections and hot fomentations. His appetite failed and he appeared stupid and miserable.

On Monday, Jan. 11th, 1897, he came to the surgery presenting a very worn and weary aspect, saying he had passed a painful night, had shivered and vomited. The discharge from the ear had ceased. His pulse and temperature were taken for the first time, the former being 120 and

the latter so high as 102½ F. He was at once driven to the hospital, a history of his case given, and so he passed from under my care, as his lodging afforded no facilities for nursing one so seriously ill, with the probability of the necessity for a grave surgical operation close at hand.

The same day as he entered hospital (Jan. 11th) he had a recurrence of vomiting, frontal headache and rigors, with frequent pulse and temperature of 105° which fell in a few hours to near the normal point. His condition for the next five days was not improved. His nights were painful and restless, his pulse frequent, with daily rigors, sweating and vomiting, and relaxed bowels, while his temperature was very unstable, showing extreme variability within short intervals.

On Friday, Jan. 15th, he was again placed under my care, when the previous diagnosis of mastoiditis and sigmoid sinus involvement was more fully confirmed. There were now local signs, which before were absent, viz., swelling and great tenderness on the right side of the neck, at the anterior border of the sterno mastoid over the internal jugular, so that he was unable to turn his head, on account of the pain it gave him. The mastoid process was not edematous or swollen, nor its posterior border tender on pressure where the mastoid vein emerges.

He had lost weight, and so critical was his condition that, notwithstanding the slight local mastoid signs, it was decided to open the antremo and make a full communication between it and the middle ear. Further extent of operation (possibly opening and cleaning out any septic thrombosis of the sigmoid sinus, or trephining over the tempero sphenoidal lobe) being left in abeyance.

The patient was prepared generally by a purgative, and locally by shaving the scalp above and behind the ear, by shampooing, washing with turpentine, and the application of moist stoops of hyd. sol. continuously applied for 24 hours before operation.

Chloroform was the chosen anesthetic. A vertical incision through the soft tissues down to the bone was made, from near the apex of the mastoid to the posterior root of the ligoma. Any bleeding was arrested, the periosteum was carefully elevated from the bone and dissected forwards until the osseous ext. auditory meatus was exposed, and the auricle and soft tissues could be drawn forwards by retractors.

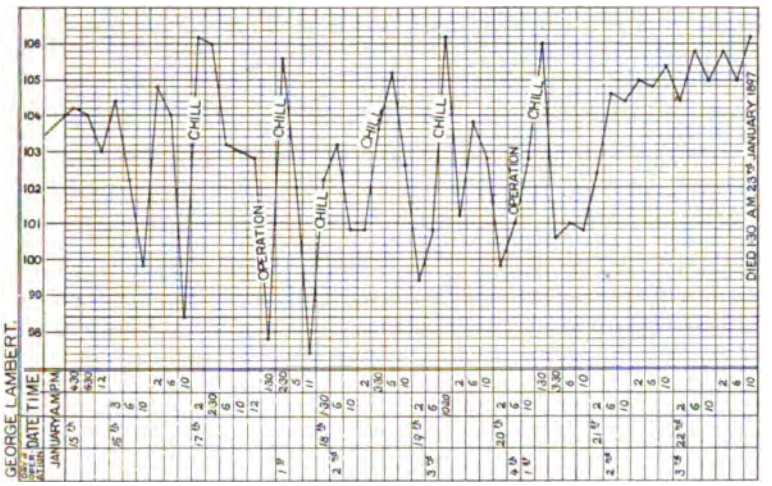
The supra meatal triangle, within which the opening into the autrum was to be made, was readily defined.

This angle is formed by the posterior root of the ligoma above the posterior osseous boundary of the meatus below, and by an imaginary line joining these parts. The autrum can, with due care, be safely opened in this space, by cutting inwards and forwards to a depth of $\frac{1}{8}$ to $\frac{3}{4}$ of an inch, which depth varies in normal skulls as well as pathological ones, where there may be increase or diminution in the thickness of the mastoid walls.

In the case reported a depth of $\frac{3}{4}$ of an inch was reached, when the autrum was opened and about two drachms of pus let out.

The other mastoid cells were broken into the mastoid ablated and communication made with the middle ear, so that fluid injected into the wound welled out of the meatus and vice-versa.

The chief instruments used were mallet and gouge. As pus had been reached and the mastoid cells broken down so as to make one large cavity, which was cleansed and made aseptic as far as possible, dusting it freely with a powder of boracic acid and iodoform, it was decided not to open the sig. sinus or tempero qotem lobe, but await the results of what had been done before resorting to so formidable an operation as opening the cranial cavity, or the lateral sinus itself.



The temperature, which was 106° in the early morning of the day of operation (Jan. 17th), pulse 130, and resp. 30, had fallen to T. 103, P. 100, R. 26, at midday, immediately before the operation, and gradually further fell during the day, so that at 10 o'clock p.m. the chart showed T. 97$\frac{2}{5}$, P. 73, R. 20. Intellect clear as it had been all along, takes food, free from pain, rested well.

This hopeful report was not confirmed by that of next day, Jan. 18th, which read as follows: 1 o'clock a.m., T. 102, P. 103, R. 29. Had a severe chill lasting twenty-five minutes. 10 a.m., another chill, T. 106$\frac{1}{5}$; 1 p.m., sweating freely; 3.30 p.m., chill lasting 23 minutes; 6 p.m., T. 105$\frac{1}{5}$, P. 120, full and regular, R. 40.

Jan. 19th, 2 o'clock a.m., T. 99$\frac{2}{5}$, P. 75, R. 23, sleeping well.

Jan. 19th, 8.30 a.m., violent chill shaking bed, lasting twenty-five minutes. Face cyanosed, features pinched.

1 p.m., wound dressed, no discharge. The lungs, which had been examined daily, were free from disease.

Jan. 20th, 2 a.m., severe circumscribed pain in left chest, relieved by synapism. T. 99$\frac{4}{5}$, P. 100, R. 28.

Jan. 20th, 1 p.m., a free, opening between autrum and middle ear was made, and a disc of bone removed by trephine half-an-inch in diameter, an inch above and a quarter of an inch behind the osseous meatus over the tempero sphenoidal lobe. There was no bulging, and pulsation was not observed. The dura, which looked darker and more congested than

normal, was divided and the sphenoidal lobe gently and carefully explored in two directions with an antiseptic canula, with negative results.

Jan. 20th, 6 p.m., pain in left side during afternoon, T. 101, P. 108, R. 41. The chest, which had been examined daily, now showed signs of involvement (septic pneumonia) without cough or expectoration, which might have easily escaped undetected had it not been anticipated.

Jan. 21st, pains in chest more diffused, physical signs of pneumonia more marked. T. $102\frac{2}{5}$, P. 106, R. 38, and general.

6 a.m., T. $104\frac{3}{4}$, complains pain in side and back, intellect quite clear.

11 a m., dressed wound, slight discharge from meatus, general condition unaltered.

6 p.m., pulse more rapid, irregular, resp. increased and shallower, large moist rales throughout lungs.

Jan. 22nd, 2 a.m., much the same.

6 a.m., T. $105\frac{4}{5}$, P. 150, R. 68.

10 p.m., T. $106\frac{1}{5}$, P. 175, R. 78. Intellect still clear.

Jan. 23rd, 1 a.m., died.

A post-mortem examination was made 12 hours after death.

There was a slight discharge of fœtid pus from the meatus.

The cerebrum and cerebellum with their meninges were normal.

No pus was found in the tempero sphenoidal lobe, or other portions of the brain.

The right sigmoid sinus for the greater part of its extent gave marked evidence of inflammation. Its walls were thickened and thrombosed, but it was not occluded; it contained pus and disintegrating clot.

The sig. sinus on the left side presented none of these conditions, and was in marked contrast with the right. The tegnun tympani had been eroded and produced inflammation by contiguity of the sig. sinus.

The lungs were pneumonic throughout, and contained foci of purulent matter.

REMARKS.

Though the case is not one of common occurrence, it is a frequent sequel of chronic middle ear disease, though not always recognized as such, being classed under such headings as pneumonia, meningitis, typhoid fever, the latter especially, when it tends towards the abdominal type, rather than the pulmonary or meningeal type. In this case the symptoms indicated more particularly sigmoid sinus thrombosis, viz.: High vacillating temperature, rigors, vomiting, sweating, with slight swelling and tenderness over the internal jugular vein.

It also shows the danger of a chronic discharge from the ear, which McEwen of Glasgow says is as dangerous as having a charge of dynamite in one's head, liable to cause an explosion at any time.

Also that local manifestations of mastoid infection may be almost wanting, and yet its cells contain considerable pus.

It was evident that his trouble had arisen from chronic middle ear disease, causing necrosis in the roof of the tympanic cavity, and the inflammation had spread to the sigmoid sinus, involving its walls, setting up phlebitis and forming a thrombus.

The products of septic inflammation within the circulation causing the severe systemic disturbance.

Septic emboli were carried to the lungs, setting up pneumonia, the last and fatal link in the pathological chain.

The high vacillating temperatures without diurnal or nocturnal abnormal regularity, with almost daily rigor, profuse sweating, and relaxation of the bowels indicated severe systemic disturbance of a pyemic nature. The sudden onset and rapid course of the illnsss occurring in one having a chronic otorrhœa, with the above symptoms fully developed, not having a low temperature, a slow pulse, tardy cerebration, no impairment of sensation or special sense, no optic neuritis, or prepillary disturbances, was against abscess, or, at least, a large one.

Yet, to offset this. McEwen says that in inflammatory lesions of the tempero sphenoidal lobe there are seldom any localizing symptoms unless the abscess be of large size.

The sigmoid sinus was not opened at the same time as the mastoid cells were, because of the finding of pus in them, the evacuation of which and their cleansing, and the application of iodoform and boracic acid powder might give relief without resorting to a most formidable operation.

There was also the uncertainty of finding the sigmoid sinus occluded, as the mastoid vein which empties into it, and is considered a valuable guide, was not occluded.

Trephining over the tempero-sphenoidal lobe was done as a *dernier ressort*, in hope of finding a foci of pyemic infection, as this is the most likely point for an abscess in such cases, though the indications did not particularly favor it.

Had the sigmoid sinus been opened, which in itself is an operation beset with many dangers and difficulties, it is doubtful if the result would have been otherwise, as the sigmoid sinus, at the post-mortem, showed incomplete thrombosis without occlusion, and an extensive disintegrating purulent clot, which it would have been extremely difficult or impossible to have removed.

DANGERS OF KOLA.—Kola has been taken up, says *Pharm. Products*, by people who would never enslave themselves to rum or opium, because it is announced as a stimulant without reaction. That is the sheerest nonsense. There must be reaction from the exhilaration of any stimulant. The first effect of kola is hardly noticeable; the man who takes it simply feels refreshed, but after eight or ten hours the heart's action is increased enormously; then, later, in the habitual kola drinker or eater, there is the lassitude, the nervous weakness and the tremulousness that ensue from over-drinking; the difference is that with kola the reaction comes on more gradually. The wise bicyclist will let kola in all its forms severely alone. It is in the insidiousness of the drug that the danger lies. It does away with the fatigue that a long bicycle ride brings, but before long it comes to be relied upon, when the development of the slavery is easy. The important point for the public to bear in mind is that kola is not harmless, but must be used with the same caution as opium or morphine.

THE DEFINITION AND SCOPE OF ORTHOPEDIC SURGERY.

BY B. E. MCKENZIE, B.A., M.D., AND H. P. H. GALLOWAY, M.D., TORONTO.

Many words in common use have gradually undergone such change and amplification of meaning that their present significance is very different from that with which they started out. "Orthopedy" is one of the words which has experienced this kind of evolution.

The exact derivation of the word is uncertain. Sayre[1] and also Gibney[2] say that it is derived from *orthos* straight, *paideno* I teach, and therefore signifies "to teach or educate straight." The medical dictionaries of Gould and of Foster give *orthos* and *pais*, a child, as the derivation; this is accepted by Whitman[3] and by Young,[4] the latter of whom says, "The word orthopedy . . . according to its derivation and its earlier use, implies the art of removing deformities in young children." Others believe the latter part of the word to be derived from the word for foot rather than from the Greek for child, and that in its early use it signified the straightening of deformed feet only. Whatever etymological uncertainty may attach to the word orthopedy, there can be no doubt that early orthopedic practice occupied an exceedingly narrow field, extending little, if at all, beyond the treatment of deformities by various mechanical appliances; and even to-day there is not wanting abundant evidence of a prevailing impression that the therapeutic resources of the orthopedic surgeon are limited to iron rods, leather straps and plaster of Paris bandages.

It is extremely doubtful if a perfectly satisfactory definition of orthopedic surgery is possible, for such definition must be based not upon the derivation of the word orthopedic, nor upon the conception of its scope held by those of a past time; it must represent the actual field of work of the specialists in orthopedic practice of to-day, and they are not fully agreed as to where the line of demarcation between orthopedic and general surgery should be drawn.

Of the many definitions that have been proposed we shall reproduce only two. Royal Whitman[3] quotes the following from an American text-book of surgery: "Orthopedic surgery has to do properly with the treatment of deformities and contractions, especially by some form or other of mechanical appliance; though of late its field has been somewhat extended, so as to include the consideration of many of the deformity-producing joint affections." He then shows how imperfectly this statement represents actual orthopedic practice by saying: "Of the two hundred and eighty-four papers to be found in the eight volumes of transactions of this Association" (American Orthopedic Association) "but seventy-five are limited to the sixteen subjects that, according to this text-book, represent the scope of orthopedic surgery. Of the seventy-five, thirty-two are on club-foot alone, and nineteen of these consider its operative treatment. One must conclude, then, that this section of a modern text-book represents the orthopedic surgery of a past time." Whitman then suggests the following definition, basing it upon the view that the scope and compass of

modern orthopedic surgery are best indicated by the work of the American Orthopedic Association: "Orthopedic surgery is that division of surgery which treats of disabilities and diseases of the locomotive apparatus and of the prevention and treatment of deformities of the framework of the body." Although perhaps open to criticism, this is probably the best definition that has yet been produced.

While the proper boundaries of this specialty may be determined with little difficulty throughout the greater part of their extent, there are certain surgical conditions where it must at present remain a matter of opinion as to whether they lie properly in the domain of orthopedic or of general surgery. For example, Whitman's definition above quoted would certainly bring fractures and dislocations into the realm of orthopedic surgery; and while it is true that the daily contact of the specialist in this department with purely mechanical and mathematical problems, and his wide experience in devising mechanical apparatus to meet special conditions, should make his counsel and assistance of some value in certain unusual cases of these injuries, it may well be doubted whether ordinary fractures and dislocations will ever pass out of the province of the general surgeon, or even of the general practitioner.

Again, some orthopedic surgeons consider that the treatment of hernia comes within the limits of orthopedic work, on account of the skilful mechanical treatment required in many cases[6]; but the writers do not share this opinion, believing that hernia belongs to general or to abdominal surgery, especially in view of the increasingly frequent and satisfactory employment of operations for the radical cure of this condition. Possibly the simplest way to state the scope of orthopedic surgery would be to enumerate in a general way the diseases and disabilities that are regularly taken charge of by such practitioners of this specialty as are neither manacled by the traditions and conservatism of the infancy of orthopedic practice, nor, on the other hand, inclined to extend unreasonably the boundaries of their work.

One not cognizant of the kinds of cases that seek the advice of the orthopedic surgeon will be surprised at the number of cases of disease of the nervous system that present themselves, usually not in the early days of the affection, but later, when deformity, or local weakness, interferes with erectness of bearing or with the power of locomotion. In the one case some of the most satisfactory results ensue, as a very large proportion of the deformities resulting from disease of the nervous system are amenable to correction; in the other, while improvement is slower and often the ultimate gain less marked, yet by the aid of massage and physical training many cases may be helped to a degree that is a surprise to those who have not employed such treatment and have looked upon these cases as hopeless.

Therapeutic gymnastics, as a part of the resources available to the orthopedic surgeon, is worthy of notice. In deformities of the trunk, especially, such as lateral curvature and round shoulders, there is no other means by which correction can be effected with so much satisfaction. In general it may be said that most of these deformities are seen in girls, and are due either to lack of muscular development and general weakness,

or to vicious attitudes, at first temporarily assumed and afterwards become more or less habitual and permanent. The older practice of employing braces in such patients is, in the end, generally productive of harm; while physical training may be employed not only to develop muscle, but to educate such cases into right attitudes and the proper employment of their muscles. At the same time, great gain always results in general health of the patient.

It is needless to dwell on the fact that all forms of chronic joint disease and all deformities of the locomotor apparatus are the orthopedic surgeon's regular stock in practice. Demanding, as these do, both operative attention and specifically adapted mechanical appliances, the most satisfactory results are not attainable unless fitness and skill, in both these fields of work, combine in the same practitioner. On the one hand the mere mechanician must often labor long and unsuccessfully with such cases as congenital club-foot; and on the other, the surgeon who operates, however successful, but who for any reason fails to follow up his cases with mechanical treatment, sometimes for several years, will be humiliated many a time by finding that the result is little or no gain upon the condition before operation.

Negatively, it may be said that some deformities come much more appropriately under the care of others whose training and every-day experience fit them for so dealing with these cases as to obtain the best results, *e.g.*, hare-lip.

A consideration of the scope of orthopedic surgery always introduces the question of its claims to be regarded as a specialty. What need is there for separating it from general surgery? Several sufficient reasons might easily be set down. The evolution of all specialties occurs in obedience to the broad general principle that advantages are gained by a division of labor. The field of medicine and surgery has become so limitless that it is simply impossible for any one mind to thoroughly compass all of it. No man can be an all-round expert. Indeed, nothing is more certain than that those who limit themselves to ophthalmology, laryngology, gynecology, neurology, orthopedic surgery, etc., feel their energies taxed to the utmost in the effort to do the best work that is capable of being done in their several departments of practice.

The difficulties and annoyances incident to providing the various mechanical appliances essential to the treatment of many orthopedic cases can be appreciated only by those who have actually undertaken such work on a large scale; while the caprice of some of the patients who require the appliances is at times almost intolerable. The presence in any town or city of one or more surgical machinists does not by any means solve all the difficulties encountered in producing such appliances, for mere mechanical skill can never take the place of anatomical and physiological knowledge; and unless the surgeon is in a position to personally supervise the manufacture, serious and annoying imperfections in the execution of his well-designed plans will constantly result, to say nothing of the humiliating experience of frequently finding himself occupying a secondary place to that of his instrument maker.

The practice of orthopedic surgery is peculiarly time-absorbing. Per-

sonal attention to minute details, continued often for years, are essential to the achievement of the best results; and it is a fact that the busy general surgeon finds it absolutely essential to leave many details to subordinates, his time and attention being fully occupied by the more important phases of his work; and without at all calling in question the *ability* of general surgeons to do orthopedic work, it may be fairly stated that the special difficulties of orthopedic practice cause this class of cases to be more or less neglected by general surgeons, and it was largely this fact that led to the development of this department of surgery into a specialty. "It is the mechanical specialty, but no longer in the old and narrow sense, mechanical because it has to do directly with the human machine. One must not only know the causes of disease, but he must become an expert in the statistics and dynamics of this machine."[3]

Some are of the opinion that the orthopedic surgeon ought to limit his therapeutics to mechanical appliances, but should call in the general surgeon to perform such surgical operations as may be required. From this view we unhesitatingly dissent. We emphatically agree with those who believe that a specialty should be complete in itself, and that every orthopedic surgeon worthy of the name should feel fully prepared to undertake not only tenotomies, but excisions, tendon-transplantations, arthrodeses, or any other operations that may be required in any of the cases that come under his care. Possibly the best evidences of the need of special instruction and training in orthopedic work is to be found in the significant fact that many of the foremost medical educational institutions, on this continent at least, have established chairs in orthopedic surgery; and the time is at hand when the medical school that fails to furnish such special instruction will be regarded as failing to fully provide for the needs of its students.

1 Lewis A. Sayre: Lectures on Orthopedic Surgery and Diseases of the Joints, 1876, p. 7.
2 Dennis: System of Surgery, 1895, p. 276.
3 *New York Med. Journal*, June 20, 1896.
4 Orthopedic Surgery, 1894 p. 17.
5 Transactions of the American Orthopedic Association, Vol. VII., p. 40.

PRURITUS ANI.—Sufferers from pruritus ani are usually either arthritic or nervous.—*Ann. Gyn. and Pæd.*

℞ Menthol, 4 parts.
Alcohol, 30 parts.
Distilled water, 60 parts.
Dilute acetic acid, 150 parts.
For external use only.

℞ Carbolic acid, 5 parts.
Hydrated potassa, 2 parts.
Linseed oil, 30 parts.
Bergamot oil, 9½ parts.
Apply at bedtime.

In very severe cases deep cauterization of the parts with nitrate of silver or the thermocautery may be employed. Section of the nerves gives good results in pruritis of the anus, vulva and scrotum, when the affection is very intense.

SURGERY.

IN CHARGE OF

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A NEW RING FOR USE IN INTESTINAL ANASTOMOSIS.

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Of all the devices in use to hold together the cut ends of the bowel, in the operation of intestinal anastomosis, Murphy's button, Senn's decalcified bone plates, and Abbe's catgut rings are the best, and any of these may be more desirable in a given case than the others.

Murphy's button is the simplest, and more than any of them facilitates rapidity of work; but there are a few cases in which its use would seem to be attended with uncertainty. They are among those with old and extensive adhesions of the bowel, in which for various reasons it may not be possible or wise to sever all the adhesions, and in which, consequently, the lumen of the bowel may at some point be left narrowed after the operation. In such cases the button, after detachment from the point of operation, may become lodged in a narrow segment of the bowel and form a permanent obstruction.

Senn's bone plates, being digestible, are free from this objection, but they are expensive and must be obtained from the instrument maker, which cannot always be done at short notice. Of course it might be said that the surgeon should keep some on hand constantly, and thus be prepared for emergencies; but then, with the multitude of other little things to care for, we all are apt to overlook occasionally the need of things which may be used perhaps only once in a year.

Abbe's catgut rings, which he himself discarded in favor of plain suturing, answer this last requirement in so far that they can be made by the surgeon; but it cannot be done at short notice. They must be made of moistened gut, and when finished dried under pressure that their form may be retained. Then in sterilizing them at the time of operation, if they, with the attached silk threads, are put into the antiseptic solution a little too soon, or delay occurs after they have been put in, they are apt to warp and curl out of shape. As the same distortion is apt to occur in

the bowel, they are not adapted for use in end to end anastomosis, and furthermore it is difficult to make them in good ring form.

Under the stress of necessity I hit upon a ring which I think possesses all the advantages of Senn's bone plates and Abbe's catgut rings, without the objection I have made against Murphy's buttons.

Being called some distance from home, two years ago, to operate for fecal fistula, resulting from strangulated hernia, I ordered a set of Murphy's buttons. The day for the operation had been fixed and the buttons came to hand late. Upon examining them it occurred to me that in case there would be extensive adhesions and matting together of the bowel, which it might not be expedient to undo entirely, there might be left bands which would constrict the bowel so as to prevent the passage downward of the button after its detachment from the seat of operation. Having on hand neither bone plates nor catgut rings, and time being short for making of the latter after Abbe's method, I constructed two sets of rings, using catgut and rubber tubing. Taking a piece of light rubber tubing with one-eighth inch calibre, three and one-quarter inches long, and a piece of chromicized number six catgut eighteen inches long, I pushed one end of the gut through the tube, then carried it around and passed it through again in the same direction, and so on until the tube was filled with strands of gut. Pulling upon the ends of the gut then until the ends of the tube were brought in apposition, I had a complete ring. The ends of the gut were then cut off one-half inch from the tube and stuck into it in opposite directions, and the ends of the tube closely approximated. The result was a smooth elastic well-shaped ring, an inch in diameter. Now four small openings were cut into one side of the ring with a scissors, equal distances apart, and so placed that the break in the tubing was midway between two of them. Through these openings a medium-sized silk thread was passed on a cambric needle, around one side of the enclosed gut, through the tubing on the opposite side, back through the same puncture, around the other side of the gut, and out at the opening, the first point of entrance. The thread was now around the gut in the tube, and both ends out at the opening made with the scissors. A firm slip knot was now made and slid back into the tube, while the thread was drawn tightly on the gut, care being taken to have the knot small enough to pass easily through the hole in the tube, so that it might not hold the tube after solution of the gut subsequent to the operation. The thread was then cut at a length of nine inches, and a knot put in the end to prevent the needle dropping off. The four threads having been passed in this way, the ring was finished and ready for use. In this case the button could fortunately be used and the rings were consequently not needed.

A year and a half later a case of fecal fistula, resulting from an operation for suspensio uteri by another person, came under my care. The fistula had existed four months, and various efforts had been made to heal it. I began the operation with the intention of using Murphy's button, but also got ready my rings.

Upon opening the abdomen a large mass of agglutinated bowel was found beneath the fistula, and the adhesions were so thick and vascular

as to make their detachment slow and tedious work. After loosening about a foot of bowel above and below the opening, so as to give myself room for work, it seemed best, on account of free bleeding and a very friable condition of the tissue, to leave the balance of the mass undisturbed. As there were probably several feet more bowel held in it, I feared that a Murphy button might not pass through, and hence used the rings.

The rings were placed in the bowel, and the threads carried through it about one-quarter inch from the edges. The two ends were then whipped together with a continuous silk suture, through all the coats, over about one-fourth of the circumference of the bowel, the middle of the line of suture being over the attachment of the mesentery. The threads on the rings were then drawn tightly and tied, and a line of continuous fine silk suture from side to side run through the peritoneal coat over the whole line of approximation.

The patient, who was fifty years old, recovered without an unfavorable symptom. The rubber tubes were not found in the stool, but as nearly six months have elapsed since the operation, it may be presumed that they have passed, or at least they can do no harm.

The fistula was so high in the jejunum that the discharges from it were entirely free from fecal odor, and that, as the patient expressed it, "there was hardly any use of drinking water because in a few minutes it would run out of the hole."

My object is not to present these rings as a substitute for Senn's bone plates when they are at hand or can be procured in good time, but in their absence in cases of emergency, and in lieu of Murphy's button when as in this case there is doubt as to whether it would find its way out of the bowel. Under these circumstances they are superior to anything I have ever seen offered for this purpose.

For use in lateral anastomosis with linear or elliptical opening an ellipse could easily be made by using two pieces of tubing of the desired length and pulling on the ends of the catgut until the ends of the tubing would be brought together in pairs. The silk threads could then be put half an inch apart and opposite each other in pairs, in the same way as into the rings. In position in the bowel, this would really be only a modification of the old quill suture as applied on other parts of the body —modified by the presence of the soluble catgut in the quill.

The advantages of the rings are, that they can be prepared in a few minutes by the surgeon; their trifling cost; the smooth and firm surface of the rubber tube which is to lie against the bowel; the protection which the tubing gives to the contained catgut by which its solution in the bowel is retarded; that after the catgut dissolves the rubber will drop away from the silk ligatures, not as a ring, but as a small straight piece of thin flexible tubing, which can hardly, under any conditions, be arrested in its downward passage.

Suturing of the ends of the bowel without mechanical support, either laterally, as Abbe has done since he put aside his rings, or end to end is not applicable to all cases.

It is necessary to have good healthy peritoneum at the seat of operation, which cannot always be obtained in cases of fistula in which exten-

sive inflammation with agglutination of the bowel around the opening has occurred. If the peritoneum has been involved in an inflammatory process, it disappears in the newly-formed tissue or becomes so fragile that it will not hold stitches sufficiently, unless two or three rows are made. Then the operation is certainly tedious, and much slower than when rings are used, and the surgeon cannot leave his patient with the feeling of security which the rings afford. Of course this objection may be met by excising the denuded portion of bowel, but conservative surgery would certainly not permit such a sacrifice simply as an expression of preference of one method over others.

In the case here presented several inches of bowel were cut off to avoid making the anastomosis where nearly the whole circumference of the organ was bare of peritoneum, and yet at the place of election the Lembert sutures put around the rings gave way at several points, and required reinforcement by a second line. Without the firm support of the rings inside of the Lembert sutures, I would have been loth to drop the bowels into the abdomen, with those weak spots in the seam; but with them, I had no fear of the result. It would have been impossible in this case to have found, on the two feet of bowel which was extricated from the mass, two spaces four and a half inches long with sufficient healthy peritoneum to suture them and hold them together side by side.

The objections which have been urged against Senn's plates and other mechanic supports in lateral anastomosis, upon the ground that they obstruct peristalsis, seem to me to be ill-founded. Lateral union of three or four inches of bowel will, regardless of how it has been produced, interfere with the peristaltic wave, but the interference caused by doubling the bowel upon itself and uniting the folds by six lines of suture would certainly not be increased much by the addition of a flexible splint, and at the worst the increase would be only of temporary duration.

That lateral anastomosis will retard peristalsis was proved to me in an experimental operation I did upon a dog with Abbe's rings soon after he called attention to them. The animal got on comfortably for a year and a half. Then he was taken with symptoms of obstruction of the bowel, with which he died in the course of a week. Examination showed the blind end of the upper section of the bowel, which at the time of the operation was half an inch in length below the opening between the two ends, very much dilated and packed with a hard mass the size of a walnut, composed of hair and other solid matter, which extended above the edge of the opening. The opening had contracted from an original slit one and a half inches in length to an ellipse three-quarters of an inch long. This aperture was larger than necessary to permit the passage of any of the particles which made up the mass, and hence the collection was not due to obstruction, but to arrested peristalsis in the pocket below the opening and consequent deposit and accretion of material there. In this way the mass increased in size until it did obstruct the artificial opening.

The operation with these rings is decidedly easier to perform and can be done in much shorter time than any form of lateral operation. Should I be called upon to use them again, which would be done in any case in which a transverse operation could be performed, and for any reason

Murphy's button might be thought unsuitable, I would modify the operation by putting three interrupted catgut sutures through the approximated ends, in the part not covered by the continuous suture of one-quarter the circle opposite the mesentery, placing them between the threads on the rings. With rings one and one-quarter inch in diameter, this would place a suture embracing the whole wall of the bowel for about every quarter inch of line, and this with the rings well adapted, and one row of Lembert's stitches around them would make a perfect union.—*Med. and Surg. Reporter.*

A REVIEW OF THE AUTHOR'S METHOD OF ANCHORING THE KIDNEY.

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The frequency with which surgeons meet both floating and movable kidney has long since attracted attention as to the best method of anchoring this organ so as to preserve its normal functions. The multitude of complex disturbances and reflex symptoms associated with a floating or movable kidney are such that the surgeon is constantly called upon to render relief. These abnormal conditions may last for years without serious results, yet they are liable to give rise to degenerative changes which may necessitate a nephrectomy or a nephrotomy at any moment. Palliative treatment, by means of rest and bandaging, as a rule, avails but little. The difficulty of holding a kidney in place with a bandage is such that little reliance can be placed on this method of treatment.

From the fact that this abnormal condition is chiefly a source of annoyance rather than danger, patients hesitate in submitting to an operation for the purpose of anchoring the kidney, as it seems to them a very large undertaking for the purpose of accomplishing very small results. It is hard to make them understand the importance of having the kidney anchored and the danger that is likely to arise from neglect of the proper surgical treatment. At the same time we can hardly blame them or their family physician for not urging an operation which requires a large oblique gash through the lumbar muscles and a number of buried sutures which are difficult to insert. Only those who have attempted to perform this operation can appreciate how hard it is to hold the kidney in place by the old-fashioned method until it is sutured to the deep muscles of the back. The difficulty of this procedure stimulated me to devise a new operation which had for its object simplicity, rapidity and efficiency.

Referring to a paper read before the Columbus Academy of Medicine, November 19, 1894, on "A New Method of Anchoring the Kidney," published in the *Columbus Medical Journal*, December 25, 1894, you will find that my operation consists "in making the ordinary perpendicular abdominal incision over the median line of the kidney. As a rule, it need not exceed two and a half inches in length, depending largely on the thick-

ness of the abdominal walls. Having made the incision sufficiently large to get the fingers in and bring the kidney to its normal place, I then use a long needle which I have had made on purpose, seven inches in length. Two of these needles are threaded with aseptic silkworm gut or aseptic silk, using but one ligature. Having placed the kidney in its normal position (and in the case of a floating kidney scored the peritoneum so as to favor adhesions), I now insert my first needle through the upper and inner part of the cortical substance of the kidney directly through the muscles of the back, bringing it out between the eleventh and twelfth ribs. The second needle, which is on the other end of the ligature, is also passed through in a similar manner, about an inch from its fellow, through the upper and outer cortical substance of the kidney, making, as you will recognize, a staple stitch. These ligatures are tied on the integument of the patient's back by an assistant. If necessary, another suture is inserted in a similar manner through the outer margin of the kidney, the first needle of the second suture being passed about an inch below the last needle of the first suture, and the second needle of the second suture about an inch below the first needle of the second suture, through the cortical substance of the outer portion of the kidney."

You will readily see that this is a very simple operation, does not involve any vital structures and can be performed in a few moments with little or no danger to the patient, while the results have been even more than anticipated. In explaining the method I had adopted to my friends, I found but practically one criticism, and that was a lack of confidence in obtaining satisfactory results. Recognizing the fact that it required several sutures, by the old method, to hold the kidney in place, they did not see how it was possible for one or two sutures to accomplish the same. If you stop to study the difference between the two methods, you will readily observe that the new method "clinches," so to speak, the kidney by a staple suture, while the old method simply sutured the posterior portion to the deep lumbar muscles. The merest tyro will readily see the mechanical difference between the two sutures. The one not only embraces the entire kidney, but pierces the lumbar muscles and is re-enforced by the integument on the back, while the other simply involves a portion of the friable cortex of the kidney and a small portion of the tenderloin; hence it is quite evident that more sutures would be required by the old method than the new.

Since devising this plan for anchoring the kidney, I have had an opportunity for demonstrating its practical utility in five (the author operated his sixth case at the University Hospital, during the recent meeting of the Ohio State Medical Society, which made a prompt and uneventful recovery, making a total of seven cases with seven recoveries by this method) cases operated by myself and one by my colleague, Dr. Means, with the most satisfactory results in each case. The rapidity with which the operations were done is one of the marked features. It is only necessary to make a very small opening into the abdominal cavity, bring the kidney to its normal position, pierce it with the needles, as above described, tie the sutures over a piece of iodoform gauze on the back and close the abdominal wound. There are seldom any constitutional symp-

toms following the operation. The patient has little or no pain or rise of temperature, while the pulse remains practically normal. In about ten days the suture can be removed, leaving the kidney entirely free from any foreign substance. I usually have the patient remain quiet from two to three weeks after the operation.

Up to date there has not been a single instance of a return of the disease, so far as I have any knowledge, the patients are all enjoying good health, and are entirely free from the reflex symptoms which were so annoying prior to operation. In two of these cases it was my fortune to have an opportunity to examine the result; in one case several months afterwards, and the other nearly two years. In each case the patient had to be operated for ovarian trouble, and in each I made a careful examination of the kidney which had been anchored and found it firmly fixed, and, so far as I was able to judge, in a perfectly healthy condition.

I do not claim that the few cases which I have reported are sufficient to establish the fact that this method is without fault, but I do claim that up to date the results secured are better than those usually obtained by other methods.

SUBPHRENIC ABSCESS.—The difficulty of diagnosing this condition is well shown by the fact that in only two of the five cases observed by Dr. Carl Beck, was the true nature of the case recognized before operation. He states that it is sometimes impossible to distinguish an encysted pyothorax from a subphrenic abscess. As regards exploratory measures, he advises that after every aseptic precaution had been observed, the exploratory needle should be introduced over the seat of abscess. If the first trial is negative, the needle should be reintroduced several times in different places—as the pus cavity may be either of small extent or it may contain a cheesy accumulation, or, finally, it may be divided into several minor cavities by adhesions. After each negative result a wire should be pushed through the needle, so that any pus which may have remained adherent to the inner surface of the needle may become detached. Occasionally, it will be found useful to fill the syringe with sterile water after the operation and force the solution through the needle into a Petri dish. If the microscope does not give sufficient information, after examining this fluid, cultures may be made in properly prepared tubes.

The treatment of subphrenic abscess is practically the same as that of pyothorax, that is, resection of a piece of rib, the subphrenic abscess generally being within the extent of the ribs. Only resection secures a sufficiently wide opening for thorough evacuation.

As a rule, the eighth, ninth or tenth rib, preferably in the median axillary line, is selected. If the abscess be large, in subphrenic abscess as well as in pyothorax, two or three ribs should be resected in order to be able to pack the whole cavity with gauze, which procedure seems to be the ideal treatment of any abscess. If the abscess be small, it will not generally be found within the axillary line; then the exploratory needle will always indicate the ultimate route of the incision line. Exceptionally, such abscesses may be reached below the costal arches or the xiphoid process.

VOLVULUS TEN DAYS AFTER OPERATION FOR APPENDICITIS.—Dr. Charles McBurney presented a boy eleven years of age, who had come under his care in the hospital on the last day of February of this year, with symptoms of appendicitis for forty-eight hours. The pain and tenderness had been marked, but the temperature was only 99° F. and the pulse 100. Still, the tenderness extended over a wide area and the general look of the boy was that of one suffering from a grave illness. The operation was done the same day, and he found extensive lesion of the appendix, which was perforated at two points and partly gangrenous. Two concretions were found lying still in it. Pus and general peritonitis were found in every part of the abdominal cavity except the extreme left hypochondrium. At least, the sponge thrust over to that side did not bring out fluid. The whole cavity was washed out very generously with normal salt solution; it was dried out, and a large glass tube was put down into the pelvis, draining from that point and packing above. Everything went along very satisfactorily, indeed, until ten days after the operation, when the boy began to complain of occasional and scattering pain in the abdomen. This complaint was made with rather increasing frequency for a week, when the symptoms became alarming. There were continuous severe pains, vomiting and impending collapse. On the surface of the abdomen dilatation of some coils of intestine could plainly be made out, making it sure that there was bowel obstruction from some cause.

Dr. McBurney opened the abdomen a little to the right of the median line, the seat of greatest pain, on March 16th. The intestines were free from adhesions or signs of inflammation, and it was only after considerable search that he found the cause of the obstruction and local distention, consisting of a coil of small intestine held in a position half twisted upon itself by adhesion of the omentum. It was very easy to pull out the intestine, give it half a twist back, and then on closing the wound the boy made a prompt and complete recovery.

The speaker thought that one of the most singular features of these cases of general septic peritonitis with lymph scattered over the entire abdomen, was the fact that when they got well they did not have adhesions, as one might expect, for when occasion arose to open the abdomen again the adhesions were likely to have all disappeared. To have an omental band form of the kind found in this case was unusual.—*Med. Record.*

THE ABDOMINAL BELT AFTER CŒLIOTOMIES.—As the result of correspondence with a large number of surgeons, Dr. McGuire, of Richmond (*Maryl. Med. Jour.*), states that the majority of the writers employ an abdominal belt after cœliotomies—some from conviction, some from doubt, and some from indifference. The fact, however, that a single competent observer has discarded its use, and found no reason to regret abandoning artificial support, proves that in the large majority of cases it is unnecessary. Because an abdominal belt is indicated in some instances is no reason why it should be employed in all cases. Routine practice is bad practice.

MEDICINE.

IN CHARGE OF
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REMARKS ON THE EARLY FEEDING OF TYPHOID PATIENTS.

BY SAMUEL WEST, M.D., F.R.C.P.

The management of the diet in typhoid fever is of the greatest practical importance, and it is well that from time to time the subject should be considered. Certain points have been raised by Dr. Barrs in his recent article upon the early feeding of typhoid patients with solid food, and it is because I think there is a great deal to be said against both his reasons and his conclusions that his article calls for criticism.

The usual practice of the present day is to place a typhoid patient, as soon as the disease is recognised, upon a fluid diet, and not to change it until all trace of fever has been absent for a week or more, and then to make the change to ordinary diet gradually and with great caution.

As to the best kind of fluid diet during the early stage of the fever, and the best method of changing the diet when the time has come, as well as the time at which the diet could be most advantageously changed, there may be considerable differences of opinion. The two first questions need not be raised in the present communication. It is the third question which is raised—namely, as to when the change in diet may be safely made.

The reason that the diet is not changed until the eighth or tenth day after the fever is that there is a general belief that to do so sooner introduces a risk, and many think a considerable risk, of relapse. Dr. Barrs, on the contrary, advocates an early change from liquid to solid food ; first, because he does not share this belief ; secondly, because he cannot understand the reasons for it ; thirdly, because his own experience is against it ; lastly, because the patients are underfed and require more food.

In respect to the last objection it may be asserted that no one intentionally starves a fever patient nowadays. On the contrary, as much food, of a suitable kind, is given as the patient can digest. Nor is milk, if taken in sufficient quantity, a starvation diet. Other patients may live for months upon a milk diet only, and be capable of a considerable amount of active exertion and mental work, and why should typhoid patients starve on it ? The wasting and anæmia and debility of a typhoid patient is not the result of his diet, but of the fever, and is similar to

that seen in tuberculosis, in which disease the appetite may be even large and yet the wasting continue. What is called a low diet, that is, a fluid diet, is not necessarily a starvation diet. It is often the patient that is low, not the diet, just as asthenic fever describes the patient and not the disease. If a typhoid patient requires more food it can be given him by increasing the quantity of the liquid diet, whatever it is which is being taken, without necessarily making any change in it, and still less putting the patient upon a solid diet.

Nor are the patient's desires necessarily a safe guide in this respect; so far as there is a mere feeling of hunger this can be easily dealt with by increasing the amount of fluid food he is already taking. So far as the desire is for different food, the propriety of yielding to it must be determined by other considerations, for the cravings in disease are sometimes after what is harmful and not after what is good.

After all, then, we come back to the question of fact: Is it, or is it not, a fact that there is a risk in changing the diet too soon?

The general opinion is that too early change in diet introduces a risk of relapse. This is a risk only, and not a certainty, of course, and how great a risk it is impossible to express in figures; but, as the dangers of relapse are so considerable, the general opinion is that this risk should not be run.

Against this opinion Dr. Barrs quotes 31 cases; but it is to be observed that out of these 31 cases 2 had relapses, that is, 6.2 per cent.

In typhoid fever statistics are notoriously unreliable. I dealt with this question some years ago, in a paper read before the Medical Society of London, and showed what utterly fallacious results can be drawn when the number of typhoid fever patients is small, and that even when the numbers are comparatively large, conclusions may be arrived at which are not borne out by bedside observations.

In questions of the kind we have now under consideration the general floating opinion of the profession is much more likely to be correct. The only doubt which might be thrown upon such an opinion would arise if the question at issue were one to which the attention of the profession at large had not been clearly directed, or upon which there had been a very strong tradition. In the present case neither of these objections hold, for typhoid fever is an extremely common disease, and one of which every practitioner, whether in hospital or family practice, has experience, and the practitioner is called upon in every individual case to decide this most important question of diet, and, above all things, he has to consider when and how he shall make any change in it. He could not avoid the question if he would, for it is sure to be forcibly brought before his notice, if not by the patient, at any rate by the patient's friends. If, then, the general experience has led to a strong opinion that the diet should not be changed until the eighth or tenth day after the fever is past, depend upon it it is an opinion that is worthy of respect. It should not be lightly set aside because it cannot be actually put into a statistical form, still less must it be upset by appeal to a small number of cases, or because the *rationale* of it is not obvious.

A priori considerations should not, as Dr. Barrs himself says, influence

our practice too much, but that is equally true whether they appear to support or to oppose any special line of treatment. One of Dr. Barrs' chief objections to the present mode of treatment is that the explanations given are to him unsatisfactory. They are equally unsatisfactory to me, and I believe them to be incorrect; but still, a wrong explanation does not affect the value of a fact.

I am confirmed by my own observation in the opinion generally held that too early and incautious a change of diet from liquid to solid is attended with a considerable risk of relapse. I have seen relapse follow so often that I cannot question the fact; and the relapses have occurred not only in cases in which solid food has been given somewhat prematurely, but even in cases where the change of diet has been from one kind of liquid food to another. Thus I have seen it follow, and I believe result from, the taking of orange-juice or grape-juice without the pips, just as I have seen it follow a plum bun or piece of Christmas pudding smuggled in The risk that premature change of diet introduces is of a relapse—that is, of a recrudescence of the disease—with all its consequences, whether it be perforation, hæmorrhage, or what not. There is no evidence to show that the food itself induces perforation or any other morbid process except the relapse, and then all the accidents may occur which are met with in the original attack.

If it be a fact, as I believe, that a too early change in diet may lead to relapse, and the explanations suggested are unsatisfactory or wrong, what explanation is there? We cannot answer this question until we know why it is that any fever ever comes to an end spontaneously. We can at the present time only speculate as to the answer. As far as we can judge, the spontaneous limitation of these infectious fevers seems to be dependent upon very subtle changes produced in the body of a chemical or physical character by which either the germs are prevented from developing, or the poisonous products they produce neutralized. If it depends upon the production of antitoxins, bodies of very complicated chemical composition, it is quite a conceivable possibility that very slight chemical changes may so far modify them as to lead to their complete transformation or neutralization, or actually to stop their production, in which case the original toxins would produce their symptoms all afresh, and a relapse would occur.

There is some evidence to be produced in favor of these chemical changes to which I am referring. Some years ago, in the course of some observations upon the excretion of urea, I noticed the remarkable influence which an abrupt change of diet has upon the amount of urea passed. For instance, in a patient who had been placed upon a fixed diet for some time and was passing an average percentage of about 1.5 of urea the diet was changed, as, for instance, by the administration of a single egg, or something of that kind. The percentage ran up at once to 3.5, or even 4, and remained at that height for some little time. This was quite independent of the new article of food given, for if the same diet was continued the percentage of urea fell in the course of time to what it was before, namely, 1.5; or, if the offending article was withheld, so that the diet continued what it was before, the percentage still remained high for

a time; so that the total excretion of urea amounted to many times the equivalent or the nitrogen contained in the article of diet which had been added. This is a very instructive and suggestive fact, and shows how considerable the chemical changes may be which slight causes can produce.

Diabetes mellitus affords another illustration of the same kind, for the ingestion of a small quantity of sugar or starchy food is followed by a very considerable increase in the amount of sugar eliminated, and this may last many days, and be altogether out of proportion to the actual amount taken, so that sugar acts upon a diabetic patient as an active poison.

In another disease of an entirely different character from typhoid fever, namely, rheumatic fever, I have similar observations upon the excretion of urea to show what profound effect is produced by slight alterations in diet. But rheumatic fever is of especial interest in relation to the question we are discussing, for it has been long accepted as a clinical fact that it is very easy to determine relapse by changes in diet. Rheumatic fever is no doubt a germ disease, just as typhoid fever is, and no doubt the true explanation of relapse is much the same in either case.

If this conclusion to which observation has led me be true, we have a sufficient explanation of relapses occurring in various diseases as well as in typhoid fever, as the result of comparatively slight disturbing causes, of which a change in diet may be one. In typhoid fever the physiological equilibrium is unstable. In all the metabolic processes the same instability is seen which is so obvious in the temperature. How easily this is upset by intestinal disturbance we have daily clinical experience.

If what I have said is true, it is change as change which does the mischief in typhoid fever, and not so much the alteration from one kind of diet to another, although it is quite clear that the more abrupt the alteration the more likely it is to produce these effects. This is, I believe, the essentiol fact in typhoid fever, and it so far influences my practice. In the febrile stage it is important first of all to find out a diet which suits the patient. Milk is the simplest diet, and fortunately it suits most people, but it does not suit all. If milk cannot be taken the diet must be modified, and this or that form tried until one is found which agrees with the patient. As soon as the suitable diet is found, it should be continued, and not changed without good reason. "Leave well alone" is an excellent maxim in medicine, and it is one of constant use in typhoid fever. If there are exceptional cases, or exceptional circumstances arise in any case, exceptional treatment may be necessary. So with the diet: if change is necessary, change must be made, but it should be made as it were under protest, and only when distinct necessity arises. Opinions differ greatly as to what is absolutely the best diet for typhoid patients. Some lay great stress upon the feeding, the giving of milk only, and the avoiding of beef tea. Others do not object to a combination of milk and beef tea or prepared foods. Some like eggs added to the milk, and so forth. To my mind it matters little so long as the diet is liquid, sufficient in quantity, and agrees with the patient, if it be not changed. If I come to a patient and find that patient upon a diet which suits him,

although it might be one which I should not myself have originally selected, I should not change it if the patient were doing well.

In regard to the other question—namely, at what period of convalescence it may be safe to pass from the diet of fever to a more ordinary diet, I believe the best rule is that which is laid down by most authorities in the present day, and which I always practise—namely, to make no change whatever in the food until the temperature has never risen above the normal for ten days. I have never seen any harm done by keeping a patient a few days longer on the ordinary liquid diet, especially if its quantity has been increased, and if it is not necessary why should any risk be run at all, especially when it is remembered how serious a relapse may be? During the first day or two the risk of a relapse being produced by a change of diet is considerable, and it becomes less and less with every day of the post-febrile stage; it is less at the eighth day, and still less at the tenth.

As a rule I think it may be safely said that if the patient passes the tenth day the risk of relapse is extremely small. This, however, is only a general rule, and there are exceptions to it; thus I have lately seen a case in which the relapse occurred on the fifteenth day.

I do not think this question should be treated as an open one, as if it had not been seriously considered hitherto, for the current opinion is really the outcome of a multitude of observations conducted without bias over a series of years, and all the more trustworthy because no attempt is made to prove it by figures. So far as my own personal experience is concerned, I am led to endorse the current opinion with emphasis. I cannot but believe that if change of diet from liquid to solid food in the early days of convalescence, and still more before the fever has ended and convalescence commenced, become the routine practice, some of the individuals upon whom the experiment is tried will suffer, while in the end the conclusion will be that the current opinion is correct.

THE STIMULATING TREATMENT OF PNEUMONIA.

In the *London Lancet* for April 4th, 1896, was an interesting paper by Dr. Squire, strongly advocating the stimulating treatment of pneumonia, in which a hospital case was cited in illustration of its efficacy. The patient was "so far gone" that the physician in attendance gave him up as in a hopeless condition. The interne and the nurse, however, determined he should not die if they could help it, and, accordingly, plied him with brandy, as much as they could get down. The result was that he took in twenty-four hours thirty-two ounces of brandy, with decided benefit, and following up the treatment the man got well. A good abstract of the paper is published in the *Therapeutic Gazette* of August 15th.

This case brings very forcibly to my mind one under my care in the Massachusetts General Hospital some years since. The patient was a respectable young woman, eighteen years old, who at the time of her admission was suffering from double pneumonia, the lower half of both lungs being solidified. She was, of course, in a very critical condition

requiring that she should be held up by all the means that could be employed. She absolutely refused, however, to take any form of nourishment, even milk. Happily, she did not object to stimulants, so I directed the nurse to give her as much good French brandy as she could persuade her to take, properly diluted, watching carefully for any sign of over-stimulation.

On the following morning I was astonished to find that she had taken half of a so-called quart bottle of the stimulant (a little short of sixteen ounces) without the least discomfort or over-excitement. The treatment was continued, the same quantity of brandy being given her each of the two following days, with no bad result. On the morning of the fourth day whisky was substituted for brandy, and of this she took three-quarters of a quart bottle each day for four successive days, without the least discomfort or over-stimulation. On the morning of the eighth day there was a decided change for the better, and the patient absolutely refused to take a drop more of liquor. This was accordingly omitted, and she took without any objection milk and other light nourishment, such as her condition called for, and her recovery was complete and rapid. It was interesting to note how readily the patient, who was not an habitual user of stimulants, took them as prescribed—how entirely free she was from any appearance of intoxication while taking them—and her instant rebellion against them when the demands of nature had been satisfied. She took no drugs from the beginning to the end of her illness. I will only add that I cannot recall any other case in my practice in which I have thought it advisable to give stimulants so freely. Of course I have used them very often, as the case required, but never, so far as I can remember, to the entire exclusion of food and drugs.—Dr. S. L. Abbott in *Boston Med. and Surg. Jour.*

NOTHING NEW UNDER THE SUN.—It is worthy of note that while the science of medicine in its various branches has been studied and practised in India from time immemorial, and that many of what are regarded as modern discoveries in Europe have long been familiarly known in the Esta, yet practically nothing has been understood there of what we have learned to call sanitation. From the remarkable book just given to the world by the Indian Prince known as the Thakore Sahib of Gondal, on the "History of Aryan Medical Science," we learn that much was known to the practitioners of ancient India which is usually understood to be the result of quite recent European discovery. It is rather startling to be told that not only were the practices of percussion and auscultation familiar to the Indian medical men of 2,000 years ago, but they were acquainted with the circulation of the blood, and practised vaccination for smallpox, and cranial and abdominal surgery. The use of anæsthetics, and even of a rudimentary sort of antisepsis, is said to have been known, and the latter at least may be regarded as belonging to the domain of preventive medicine. But of santiaiton in general, as that word is understood in our days, they seem to have known nothing; and their descendants have been content to dwell in equally

blessed ignorance, until awakened to knowledge and aroused to action by the troublesome "doctor *sahib*," backed up by the Mohammedan or Hindoo policeman. Perhaps, after all, no better thing could have happened to Calcutta and Bombay than this visitation of bubonic fever; for the wholesome alarm caused by the outbreak will probably lead to the adoption of preventive measures which will be of inestimable benefit to both cities, and which, through them, will more or less intimately affect the whole of India.—*The Sanitary Record.*

MEDICAL SPELLING.—The *Maryland Medical Journal* so thoroughly voices our opinion of this subject that we reproduce the major portion thereof:

"The absence of any uniformly recognized authority on orthography in the United States has caused a wide diversity in the spelling of certain words and the almost too ready coinage of new words without sufficient sanction as to form and construction.

"If some body of learned men could act as god-father to all new terms and words, settling once for all the correct spelling and definition, then the multiplication of dictionaries with the varied orthography would be avoided. The best medical dictionary in English is marred by spelling which robs so many words of their philological originality. The history of a nation may be traced through its language, and while changes in the forms of words must of necessity take place, such changes are usually gradual.

"Some publishing houses, notably the Appletons, adhere closely to British orthography, and it must be confessed this is much preferable to that employed in some of the medical journals. Even the final 'our' in such words as 'colour' is refreshing after reading in one of the newer journals of a 'clinic lecture.'

"Would-be philologists should remember that the language of a nation is sacred and, except perhaps in dialect stories, should be respected."

ATROPHY OF THE TESTES AND PROSTATE AFTER SECTION OF THE VAS.—Isnvrdi (*Riforma Medical*) showed before the Academia de Medicina of Turin an old man of 72 years, whose vas he had divided six weeks before for enlarged prostate. For the last year the man had suffered from the advanced symptoms of enlarged prostate, which had been rebellious to all forms of treatment The prostate was much enlarged, and the patient had to put himself in odd positions before he could micturate.

Twelve days after the operation the symptoms began to diminish and disappeared within a month. He can now hold his water for seven hours during the night, and pass it voluntarily and without pain. The urine, which was before purulent and blood-stained, is now clear and normal. There is induration over the incision, extending down to the epididymis; the testicles are diminished in size, and the prostate is impalpable.—*Univ. Med. Mag.*

OBSTETRICS AND GYNAECOLOGY.

IN CHARGE OF
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SYMPTOMS, DIAGNOSIS AND TIME FOR OPERATION IN RUPTURED TUBAL PREGNANCY.*

BY JOSEPH PRICE, M.D., PHILADELPHIA, PA.

(*Concluded.*)

It must be admitted that the removal of a growing and almost universally attached placenta is one of the most difficult procedures in surgery. The hemorrhage is profuse and sometimes uncontrollable; the contraction of all tissues to which it is attached simulates that of uterine tissue. Rapid separation, heat and firm pressure will commonly succeed in controlling it. As to choice of time for the operation, I am of the strong conviction that there is but one choice, and that is prompt removal when the accident is first recognized.

It is better to act promptly. The steps of procedure are clear and should be completed at any risk. It is better to contend primarily with the loss of blood than later with overwhelming sepsis. Tubal pregnancy is dangerous throughout its existence; the subject *is never safe until surgically relieved. Exceptionally,* is the trouble recognized before rupture. I have never recognized one before rupture; all before is conjecture rather than knowledge.

An important element of the history connected with these cases is that few of them are kept under observation with the definite purpose of removing the viable child at the period of spurious labor; alarming symptoms develop and subside, and consultation with a specialist, if they are at any time consulted, follows the death of the child; it rarely antedates it. Then all the conditions are found greatly aggravated by delay or neglect, or that which is infinitely worse than either or both, inexcusable ignorance. Consultations for suspected extra-uterine pregnancy are quite common in those peculiar cases of much-attenuated uterine walls in normal gestation, but the ectopic cases are permitted to pass through the primary rupture, recurring ruptures, almost constant pain and spurious labor, entailing impaired general health without suspicion of the patient's peril.

* Read in the section on Obstetrics and Diseases of Women, at the forty-seventh annual meeting of the American Medical Association, at Atlanta, Ga., May 5-8, 1896.

An English authority has stated what, in connection with these cases, should be accepted as sound dictum: "As all know, the Fallopian tube is, in the vast majority of instances, the starting point of extra-uterine gestation; the most common result of this is that rupture occurs usually at the second month, through some part of the tube covered with peritoneum; a result almost universally fatal if left alone, and as *invariably curable if operated on in time* by abdominal section."

DISCUSSION ON PAPERS OF DRS. MACDONALD AND PRICE.

Dr. Joseph Eastman, Indianapolis—So far as I am able to judge from reading the literature of this subject, and from experience, there is but one treatment for extra-uterine pregnancy, and that is surgery. I will refer to one case which came under my observation, because it was an extraordinary one, and it illustrates still further the futility of packing with ice and the use of electricity. A man supposed to be a competent electrician and well posted in the treatment of extra-uterine pregnancy by electricity, tried for six months to kill the fetus and failed. He then tried packing with ice for three weeks more. When the patient was *in extremis* there was a change of physicians. On opening the abdomen I found the sac containing a living child in such an advanced gangrenous condition that I could not for a moment think of leaving it. Following the rule which I always insist on, that we shall first find the uterus, if possible, I slipped my hand down, found the origin of the tube toward the uterus, believing that all cases of extra-uterine pregnancy are primarily tubal, seized the tube at cornu of the uterus, which felt fully as large as my wrist, and in doing so I detached a portion of the placenta from the gangrenous sac. Blood poured out freely; my assistant had gone to resuscitate the child, leaving me with a couple of nurses to do the best I could under the circumstances. Crushing down the sac (as you would crush a cherry-stone out by squeezing the cherry) with clamped forceps which I have, with fingers like my own, I seized the sac below; then to my own astonishment I found the sac was adherent in a number of places to the intestines. With this clamp attached, after applying six ligatures around the points of hemorrhage, we got the gangrenous sac out, then quilting with iodized silk, we had the pedicle, to the cornu of the uterus, covered with iodoform collodion. Where we find a dead or living child with a gangrenous sac, the proper way to deal with such cases is to get at the cornu of the uterus with clamps or ligature, shut off the blood supply, and remove the sac. I do not believe that it is good practice to leave the placenta to slough out. I do not believe there is a case where such men as Dr. Price would be induced to leave a gangrenous sac. I believe the sac can be removed in many cases with less risk to the patient than in leaving it or the placenta to slough out, or both combined.

Dr. C. A. L. Reed, Cincinnati—My experience has led me to attach particular importance to the symptom of shreddy metrorrhagia as an early manifestation of this condition, and I have not been able to verify the fact that this symptom occurs only after the symptoms of rupture. On the contrary, I have found that it has occurred among the earliest mani-

festations of pregnancy, and no doubt it has occurred when there were no symptoms of pregnancy, and I was prompted on one occas on to make a careful study of a case and a diagnosis before rupture by following the case as suggested by the symptom, and that was one case in my experience in which a diagnosis was made before rupture, was operated upon before rupture had taken place, and the diagnosis subsequently verified by careful microscopic examination of the specimen removed. Therefore we did have in this one instance a confirmation of the fact that a shreddy metrorrhagia may occur prior to the symptoms of rupture.

It has fallen to my experience to observe so few instances, that I hesitate to allude to them, for the reason that their example has led to many errors and many fatal delays; but I have seen a number of cases in which primary rupture had occurred in the broad ligaments, for the reason that there was a definite extension of the tumor downward, and no particular extension of it upward, although its upper margins were definitely outlined. The tumor became stationary and disappeared. This was manifestly a hematocele. You may say that I had no evidence that it was a case of ectopic pregnancy; but if we are justified in saying that given cases upon which we operate were cases of ectopic pregnancy by virtue of the existence and persistence of certain symptoms which lead to the diagnosis and which diagnosis is confirmed by operation, certainly we are justified in interpreting as having similar consequences a similar aggravation of symptoms, and these symptoms did exist in a few cases that I saw. While that is true, I believe it is a dangerous expedient to rely upon absorption. The maximum of safety is upon the side of operation at the earliest practicable moment, and if we have such primary rupture with such limitation of hemorrhage, the safest expedient is to avail ourselves of the quiescent interval and proceed to operate when we can do it without serious complication, and without being forced to deal with an exsanguinated patient.

Dr. James F. Baldwin, Columbus, Ohio—There was one point made by the first essayist which is of prime importance, and that is with reference to educating the general practitioner to suspect the existence of ectopic pregnancy, and thus lead to a thorough examination and to a diagnosis. It has been my fortune within the last few months to have seen seven cases of ectopic pregnancy. Two of these were seen in my own practice, the others in consultation. In five of them the diagnosis was made before rupture and operation performed. The diagnosis was subsequently confirmed, and the five patients are well to-day. Two of these cases occurred in the same patient at an interval of six months. In each I made a presumptive diagnosis of ectopic pregnancy and operated. In two other cases no suspicion had occurred to the attending physician of ectopic pregnancy until I suggested to him that in the five cases mentioned the diagnosis had been made by the general practitioner. This case was one of ectopic pregnancy, the diagnosis confirmed, and the woman operated upon. In two cases the diagnosis was not made until repeated hemorrhages had occurred. The eighth case was one that was sent to the hospital during my absence, and the physician who sent the patient had made a diagnosis of peritonitis. The patient died within

forty-eight hours after admission to the hospital, from peritonitis. A post-mortem was made which revealed a normal uterus and tubes, but an ectopic gestation sac in the cul-de-sac of Douglas which had ruptured, producing a considerable amount of hemorrhage which resulted in peritonitis. This is an exceedingly rare condition, one which is denied by many pathologists.

We have educated the general practitioner to make a diagnosis in a large number of cases of appendicitis, and I think if we impress them in the matter of ectopic pregnancy until they suspect its existence when they have anything abnormal during the early weeks of pregnancy, they will make a diagnosis then or will have a suspicion sufficiently well grounded to send for an expert to make a thorough examination. When the general practitioner is educated up to this point, cases of ectopic pregnancy will be diagnosed much earlier than they are now, and before rupture, and then the operation will be comparatively simple and few deaths will occur.

Dr. A. Vander Veer, Albany—Papers of this kind are lessons in object teaching. They teach the general practitioner regarding the matter of an early diagnosis in these cases.

With reference to general peritonitis, inflammation of the bowel, etc., I have lived long enough to hear papers on idiopathic peritonitis, and in abdominal surgery the comparison or difference between these terms and appendicitis have been and are presented in their true light. The general practitioner has been taught that pelvic hematocele will be absorbed, that it will disappear. Does it disappear? Look at the cases of pelvic abscess—cases where a portion of bone protrudes through the vagina and rectum. Look at the cases of secondary hemorrhage and death which occur before you are fairly in the house. Some of these cases if diagnosed early and operated upon immediately would be saved. So many papers have been presented in the past that they have mystified the general practitioner as to the classification of this condition, as to the true pathologic state present. What is the use in standing before the general practitioner and arguing with him as to the form of ectopic gestation. If you keep it up for twenty minutes your patient is beyond relief. When the clinical symptoms are presented the general practitioner must know that an operation is absolutely necessary, and we have the authority of one man who has perhaps operated more than any other in America in these cases, and he tells us emphatically what ought to be done.

Stress should be laid upon the sympathetic symptoms. The general practitioner should be educated in this matter as much as he is in regard to cases of appendicitis, and in case he does not wish to operate himself, he should call in a specialist to share the responsibility with him. I find that when we teach the general practitioner what to do he is not slow in following our advice.

Dr. F. J. Yager, Campbellsburg, Ky.—I am a general practitioner, but I am firmly convinced that in these cases of ectopic pregnancy as soon as a diagnosis is made we should operate. If the general practitioner feels that he is not sufficiently expert to undertake the operation himself he should call in a specialist. The more we study these cases the more we are convinced that the delay is dangerous.

Dr. Rufus B. Hall, Cincinnati—My experience leads me to believe that a large percentage of these cases have a history of some pelvic trouble. I have known pelvic trouble to precede tubal pregnancy for at least five years in some cases. The cases are few in number in which we do not get a history of long continued pelvic trouble. We have a shorter space of time in which the patient has considered herself not entirely well since her last labor. A number of cases do not have these symptoms, but when we take the large number of cases operated on, a large per cent. of them have pelvic symptoms following some uterine or appendiceal trouble preceding their ectopic pregnancy. I have seen two women die inside of ten hours from ruptured pregnancy, before the third month of tubal gestation, as subsequently proven by autopsy. One patient lived twelve minutes after I reached the house. The time to operate is as soon as the diagnosis is made. In making a diagnosis we should not disregard the possibility of tubal pregnancy occurring in an unmarried woman. I have had two cases, one in a widow, who denied the possibility of pregnancy until after operation.

Dr. J. G. Carpenter, Stanford, Ky.—The model practitioner is a diagnostician the world over. If the general practitioner knows his business he makes a diagnosis and brings his patient to the abdominal surgeon if he does not want to operate himself. If he is the practitioner that he ought to be, he should be prepared to operate on the patient himself, because the best abdominal surgeons are made from the best general practitioners. Early diagnosis is the thing of prime importance, followed by prompt surgical interference. Operate before the patient bleeds to death from hemorrhage, before secondary lesions are set up. The patient is often unaware that she has had long standing uterine trouble. As soon as the diagnosis is made the patient should be promptly operated upon. If this was done a large number of cases that are now lost would be saved.

Dr. Milo B. Ward, Topeka, Kan.—We all agree that it is absolutely essential to resort to early operative interference in cases of ectopic pregnancy, particularly before rupture has taken place, if possible. The general practitioner must be educated to the point that in cases of ectopic pregnancy it is necessary to operate as soon as a diagnosis is made. Operative interference must not be postponed. I would like to report two cases which illustrate the danger of postponing surgical interference, but I will not do so at this time.

Dr. W. G. Macdonald, Albany—Regarding the general practitioner, I will say that in those cases which I have seen the matter of diagnosis or suspicion of ectopic pregnancy by him has been the exception, and not the rule. We must educate the general practitioner that we have in these cases certain definite symptoms.

When we are called in consultation we sometimes give diametrically opposite advice in regard to what is best to be done after the diagnosis has been made, and this puts the general practitioner in trouble. We want to act together in these matters and establish uniformity of opinion.

Dr. Joseph Price, Philadelphia—This subject is not so difficult to understand, and a study of differential diagnosis is rather easy. From a general standpoint, the general practitioner is a very much better diag-

nostician than the specialist. You are in the habit of calling in specialists to do your special work; sometimes after studying your cases two or three days you come to a positive diagnosis by exclusion; and now I am going to rebuke you for permitting the specialist to take the attitude which he commonly does. After studying your case you summon a specialist, he examines your patient, shrugs his shoulders, looks wise, and says he will tell you what the condition is when he opens the abdomen. The general practitioner is as good a diagnostician in a great many cases as a specialist, and when his attention is once called to a subject he recognizes and realizes its importance. I have the greatest respect for the general practitioner, and in ninety-nine times out of one hundred I have found him usually right. If we save these patients, there is no time for the specialist to be called in, because the operation must be done before the specialist arrives. I have said that at least 25 per cent. of the cases die within twenty-four hours. The symptoms are simple, physical characteristics are prominent. There is an absence of one or two menstrual periods, a delayed menstrual period, and along with this we have the characteristic agonizing pain. The attack of pain differs from any pain to which your attention has ever been called. We have the characteristic shreddy *débris* which is nearly always present; a rapid pulse, and the symptoms of concealed hemorrhage. In some cases the pulse may not be bad, and the symptoms are not alarming; but if the case is an acute and typical one, cut down upon the peritoneum only, and it will be found to be black. You have only gone to the peritoneum to make a diagnosis. You will find black blood beneath it in a large number of cases.

With reference to general practitioners making a diagnosis in these cases, I will say that nurses occasionally after listening to discussions in the operating room and taking a record of the case will make a correct diagnosis. I have had nurses who have sat by the bedside of patients for some time tell me that the case looks like one of extrauterine pregnancy.

PSYCHOSES FOLLOWING OPERATIONS.—Jacobs (*La Policlinique*, 1896, No. 4) believes that mental derangements which appear immediately after operation permit a more favorable prognosis than those which develop after a considerable lapse of time. He cites several illustrative cases, viz.:

CASE I.—Acute mania appearing three days after curettage and perineorrhaphy. It disappeared slowly but completely.

CASE II.—Melancholia in a woman, aged thirty-four years, developing six months after vaginal hysterectomy; death occurred four months later.

CASE III.—Erotic mania of a violent type; it appeared the day following vaginal hysterectomy, persisted eight days, and then entirely disappeared.

CASE IV.—Mania began on the second day after vaginal castration, and terminated fatally.

CASE V.—Melancholia developed three weeks after curettage, with insomnia, aphasia, paresis and death.

METRORRHAGIA AFTER THE CLIMACTERIC.—Masse (*Revue internat. de méd. et de chir. prat.*, 1896, No. 6) calls attention to the fact, previously pointed out by Monod, that uterine hemorrhages may occur after the menopause in perfectly healthy women. These have been noted particularly in stout subjects. Hermann and Tournaux describe certain degenerative changes in the senile uterine tissue which would favor bleeding. The muscular substance is flabby, the vessels of the mucosa are dilated and brittle, and the arteries undergo atheromatous changes. The glands disappear, being replaced by fibrous tissue rich in blood-vessels. The treatment consists in applications of liquor ferri or glycerin and carbolic acid, or in curettage.

The writer reports the case of a patient, seventy-six years of age, whose uterus was quite normal. Hot douches and ergotin failed to control the metrorrhagia, which was finally checked by intra-uterine galvanization.

GLYCERIN INJECTIONS IN THE TREATMENT OF UTERINE FIBROIDS.—Chéron (*Ibid.*) speaks highly of intra-uterine injections of sterilized glycerin in cases of fibromyoma. A little over a drachm is slowly injected every two or three days, the vagina being subsequently tamponed with cotton or gauze saturated with poroglyceride.

The effect of the drug is to cause dryness and atrophy of the endometrium, and hence diminution of the tumor. A marked decrease in the flow is observed at the following menstrual period. The writer affirms that the ease and safety of this method of treatment should recommend it in cases in which operative interference is inadvisable, or is refused.

THE DIAGNOSIS OF SMALL OVARIAN TUMORS.—Davenport (*Boston Medical and Surgical Journal*, 1896, No. 15,) concludes an article on this subject with the following propositions: 1. Small intra-pelvic growths give rise to marked symptoms. 2. Pain is usually noted, but does not bear a constant relation to the location or kind of tumor. 3. Menorrhagia or metrorrhagia is frequently present, especially in cases of cystic ovaries adherent to the uterus. 4. When uterine hemorrhage exists in connection with an intra-pelvic tumor, and is not affected by intra-uterine treatment (curettage or electricity), the tumor is probably ovarian rather than uterine. Reflex symptoms are rare with small tumors, at least in the earlier stage of their development.

OBSERVATIONS ON INTRALIGAMENTOUS OVARIAN CYSTS.—Brigidi (*Ann. d'Ostet. e Ginec*, 1896, No. 3) concludes a clinical report on this subject as follows: Women with intraligamentous cysts are apt to be sterile, because of the frequency with which both ovaries are found in an abnormal position. Under these circumstances both cysts may be of considerable size, or one may be small. Occasionally the opposite ovary is either absent or rudimentary. If the woman has borne children, pregnancy must have occurred before the ectopic ovary became cystic. When there exist supernumerary ovaries, or aberrant portions of ovarian tissue between the broad ligaments, an intraligamentous cyst and one occupying the ordinary position may be found on the same side.

NERVOUS DISEASES AND ELECTRO-THERAPEUTICS.

IN CHARGE OF
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STATIC ELECTRICITY IN THE TREATMENT OF NERVOUS AND MENTAL DISEASES.*

BY DR. H. R. NILES,
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Static electricity, although long known to the medical profession, has received less attention and study than its valuable services in the alleviation of suffering and cure of disease would seem to warrant. Long before, and for some time following, the discoveries of Galvani and Volta, it remained prominent in the field of electro-therapeutics, but it gradually fell into disuse, and was superseded by the galvanic and faradic currents. Notwithstanding its antiquity as a remedial agent, it seems to be but now upon the threshold of its successful introduction to the medical profession. Improvements in the construction of the machine have modified and tempered the irritating qualities of the current to such a degree that, after an application, an expression of satisfaction from the patient is the almost universal reward of the operator. Its pleasant, soothing effcet, the gentle stimulation of the circulation—indirectly affecting nutrition—and the readjustment of metabolism, as well as the favorable psychic effects, are desiderata more readily attained in many cases by the static current than any other therapeutic measure.

In many cases beneficial effects are immediately obtained. In others, patient and long-continued application extending over a period of weeks, and sometimes months, is the only means to the end. When galvanism and faradism have been faithfully applied, and fall short of the desired effect, the use of some form of static current will frequently prove of the greatest service, and I should never consider a case as incapable of benefit by electric treatment until static electricity has been thoroughly tested. The application of static insulation is far more agreeable than either general galvanization or faradization. The inconvenience to the patient of having to disrobe almost completely, and the distaste which many naturally feel to having a wet electrode rubbed over the skin from ten to twenty minutes is entirely obviated. However, many cases require galvanism and faradism, and the therapeutic value of these agents will continue to hold for them a prominent place in medicine.

* Read before the Association of Assistant Physicians for the Insane, Dec. 4th, 1896.

Endowed with high potential, deficient in volume, and possessed of an enormous electro-motive force, static electricity is enabled to affect the entire system in a limited degree. It affects the functional processes, glandular secretions, the circulation, nutrition, sleep and sensation.

In the melancholias, neurasthenia, and kindred neuroses, in which the nutrition of the nerve cell is primarily at fault, a toxic condition is established through the inability of the cells to rid themselves of the results of physiologic activity. The toxity is responsible for many of the mental and physical manifestations, and the discomfort to which these patients are subject. Our aim in treatment is to prevent undue waste of nervous energy, and to aid in the elimination of self-produced toxic substances. To this end we establish and maintain the highest degree of nutrition possible. To my mind, the single agent of greatest value in this work is the static current. Its use is rational, and there is nothing of the occult about it; nor can its influence in any sense be attributed to hypnotism, or some subtle influence upon the nervous system, for the same effects cannot be produced by such means. The function of all electric treatment is to improve nutrition, and the most efficient of the several manifestations of electric energy is the static current. Deficient nutrition and deficient elimination—aside from heredity—are the two factors which enter with greatest frequency into the etiology of all neuroses. Our need, therefore, in therapeutics is an agent which will promote a more nearly normal metabolism. A high degree of nutrition and cell activity in any organ is indicated by an increased circulation of blood in that organ. The ability of high potential currents to accelerate the circulation and to improve nutrition has been demonstrated in physiologic laboratories and in clinical work.

In all cases where nutrition of the tissues, and especially the nerve structures, are below par from any but an organic cause, it is a tonic of the greatest efficacy. It not only stimulates tissue formation by acceleration of the circulation, but, as Dr. Monell has said, "by a direct mechanical effect upon the protoplasm of the cell, whereby its molecular arrangement is changed and latent energy is liberated."

Aside from the relief of symptoms to which it is especially directed, there has also been observed improvement in remote visceral disturbances, such, for example as indigestion, habitual constipation, vertigo, etc.

The positive static breeze, which in reality is a succession of infinitesimal sparks, which passes into a continuous stream between the insulated patient and the administering electrode, is a soothing application and may be applied to the head, spine, or any part of the body, with little fear of irritating the patient. It is best adapted to the relief of local pain. Neuralgia, nervous headaches, muscular rheumatism, and various other forms of pain will be rapidly controlled by it. So often have I seen severe and obstinate headaches completely relieved by this agent that I now seldom prescribe other remedies. Not always, but frequently, a quiet, natural sleep, continuing from one-half to one and one-half hours, follows the treatment. The patient awakens rested, and with no trace of the headache.

Dr. Curran Pope, in speaking of the treatment of neuralgia, says:

"Nearly every case needs constitutional treatment, and to secure a powerful tonic sedative I use negative insulation from three to ten minutes, followed by a positive breeze to the painful nerve. The results are often startling. Patients that were before irritable and excessively nervous become quiet, and often drowsy. Where neuralgia is limited to the limbs or trunk, a mild positive direct breeze or spark gives excellent results."

The static spark, a most energetic form of electrical discharge, is a powerful therapeutic application, but, except in a few cases demanding heroic treatment, will be found too irritating, and will not be cheerfully borne by many patients until tolerance is established. In chronic and deep-seated neuralgias, especially of the sciatic nerve, the application of heavy, indirect sparks will be found to be in the nature of a specific. Dr. Monell has recently reported a series of cases of sciatica treated with the static spark, in which he obtained most favorable results. Short, fine friction sparks, obtained by holding the ball electrode in close proximity to or in contact with the clothing, are indicated in altered peripheral sensations, anæsthesias, myalgias, and cases requiring the effect of a counter-irritant.

The long, thick spark may be called into requisition in restoring tonicity to enfeebled or paralyzed muscle, relaxing contractures, resolving exudations, promoting absorption, and relieving pain in deep-seated organs.

The static induced current, first described by Dr. Morton in the *Medical Record* of January 24, 1891, is similar to all induced currents, and a description of its action and uses would be but a repetition of what might be said of the faradic induced current.

The frequency of application must be governed by the condition of the patient. In cases of serious nervous disturbance—neurasthenias, neuralgias, chronic headaches—daily application will be found most effectual; in less severe cases three applications a week will be productive of good results. For the relief of severe pain, as sciatica or persistent headache, two or more applications may be made daily. The duration of the application will depend upon the form of current used, the susceptibility of the patient, and the end to be attained. In our practice the time has varied from five to twenty minutes. With a nervous, apprehensive patient, taking the first treatment, five minutes in the chair will be as much as she will endure without complaint. As timidity is overcome, and confidence in the treatment established, the time can be gradually lengthened.

Under treatment the pains, the weariness, and the morbid fears gradually become less intense, and finally disappear, but the disappearance is at first only temporary. The changes at first set up are not sufficient to endure for any great length of time, perhaps not more than a few minutes, an hour, or perhaps several hours. More work must be done before nutritional changes are thoroughly established. With each treatment the period of comfort will be prolonged. As improvement takes place, and there is an increase of strength and energy, a patient may be able to pass a period of two or perhaps three days without treatment. Only with experience is it possible to reach definite conclusions as to the man-

ner, length and frequency of applications. Personal idiosyncrasies as well as the manifestations of disease must be considered. No accurate and satisfactory means of measuring the dose has yet been discovered, but it may be regulated in two ways: By the directness of the connection between the patient and the active pole of the battery, and by varying the revolutions of the glass plates. To augment the dose, we make a direct metallic connection between the machine and the patient by placing his foot upon the connecting-rod or chain, or permitting him to hold it in the hand; also by increasing the revolutions. The reverse procedures hold good in diminishing the dose.

Notwithstanding the opinions of many to the contrary, I am a firm believer in the differences of polar action. I have been led to this opinion, not only by my observations in the treatment of patients, but by repeated experiments upon myself. Positive static insulation is invariably an agreeable application, and, as a rule, brings quiet and comfort. Not so with negative insulation. In the majority of cases, restlessness and discomfort supervene. While the positive breeze is a comforting application, bringing ease and relief from the majority of headaches in from ten to twenty minutes, the negative causes a prickling, unpleasant sensation, often accompanied by unexpected sparks, which, in many cases, but aggravate the suffering from which relief is sought. The difference in polarity is still more striking in the static spark, and will best be appreciated when personally experienced. The spark, at best, is not an agreeable application, but the indirect spark, drawn with the positive pole, will be cheerfully endured by the majority when they are aware of the relief it will afford, while the negative is so stinging and painful that its use is, as a rule, impracticable.

"Some six years ago Damian of Paris made a series of observations upon the temperature and pulse and the urine, to determine what, if any, difference there was in the different insulations. The published statement showed that with positive insulation there was a regulation of the temperature and heart's action, and increase of urea and diminution in uric acid, while with the negative insulation these changes were less marked in so far as temperature and pulse were concerned, and that the volume of the urine was increased, but no change occurred in its organic constituents."

Moral effects must not be lost sight of. That in many cases treated with electricity much of the improvement is due to properties of a psychic character is denied but by few. We are all familiar with the value of suggestion and employ it daily in our work upon the wards. We are sometimes at a loss for some effectual means of inspiring hope, and increasing its buoyant influence, so essential to the successful treatment of states of nervous and mental depression. Hope and confidence bridge over many a crises, and faith in the physician and the value of his efforts is a therapeutic power that should never be carelessly shattered. As an agent for inspiring hope and establishing confidence in treatment, we find the use of this static machine of great service.

In conclusion, let me repeat that static electricity is a tonic deep-acting and far-reaching in its effect. As a muscle stimulant it is unsurpassed

as a soporific it will be found useful in many cases; as a reliever of pain it is a most potent agent. However, the possession of a static machine is no sure road to success. Neither is the static current a cure-all. It is not able to restore degenerated nerve cells, or to stimulate to action a dead muscle. Indiscriminately used, it will often prove disappointing, but, with careful selection of cases, a successfully operated machine, a skilful administration, and conservative expectation as to results, static electricity stands the peer of any other single therapeutic agent.

BLOOD-LETTING FOR PUERPERAL ECLAMPSIA.—This question has long been discussed, and the procedure is now being highly advocated again in suitable cases—those with full, bounding pulse and flushed face, indicating plethora. Wm. M. Catto, of Decatur, Ill., reports a number of cases treated successfully in this way, and gives it as his opinion that where blood-letting is practised freely and fearlessly a greater number of recoveries are found than with any other line of treatment for eclampsia. The amount of blood to be drawn is not fixed—bleed until the face becomes pale and the breathing quiet. Venesection is to be followed by cathartis, diaphoresis and diuresis.—*American Gynecological and Obstetrical Journal.*

THE TREATMENT OF CHOREA.—Dott. E. De Renzi has made use of eserine, antipyrine, salol, and ether-spray along the vertebral column, but he has confidence in only three remedies: (1) Absolute rest, avoiding any external excitation whatever, and placing the patient in a dark room. (2) The ascending electric current along the spinal cord—the best results with a gentle current, progressively increased. (3) Arsenic in large doses, commencing with twenty drops of Fowler's solution each day for children, and double this amount for adults. When the chorea ceases the medicine should be continued, for the disease returns readily. The nutrition of the patient must be maintained, and good food and gymnastics are useful.—*Gazetta degli Ospedale et delle Cliniche.*

MENORRHAGIA IN VIRGINS.—Dr. Laroyenne distinguishes the majority of cases of profuse menstruation in young girls which require no local treatment from a minority in which the use of the curette is advisable. If, after long attention to hygiene and a course of suitable tonics, menorrhagia persists, interrupted by occasional amenorrhœa, granular or fungous endometritis probably exists. This disease is yet more safely diagnosticated when the patient has been perfectly healthy and quite free from anæmia before profuse menorrhagia appeared, and equally free from evidence of diseased appendages after the local symptoms become marked. It is right after dilatation to use the curette when the excessive menstruation causes debility. A single application of cotton wool, soaked in equal parts of water and chloride of zinc, made immediately after the scraping, is sufficient. Repeated cauterizations may readily cause atresia.—*N. Y. Med. Rec.*

NOSE AND THROAT.

IN CHARGE OF

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EUCAINE AND COCAINE COMPARED.

BY J. MURRAY M'FARLANE, M.D.,

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The new anæsthetic, eucaine, is being highly praised in certain circles, and, as is usually the case with new drugs, has its enthusiastic friends, who make rather extravagant claims for it, asserting that it is much safer than cocaine, and equally good, if not better, as a local anæsthetic.

Dr. Gaetano Vinci first investigated the action of eucaine, under the direction of Professor Liebrich, who communicated the results to the Hufeland Medical Society of Berlin.

At the same time Professor Emile Berger, of Paris, made extensive experiments with it.

Among the names of those who have written favorably of eucaine we find Dr. Hal Foster, W. Jobson Horne and Macleod Yearsley (see preliminary communication in CANADA LANCET, March, 1897), Dr. A. L. Fuller, Parlaghy of Paris; Keisel Warnekros, and Wolff, of Berlin; the three latter being dental surgeons.

It is used in solutions varying from 2 to 8 per cent., according to the nature of the case, the former for examination purposes.

M. Reclus and M. Pouchet, at the Académie de Médicine, reported by the *Presse Médicale* for February 12th, (*N. Y Med. Jour.*, March 13th) presented their views, which were not so favorable to the new drug, the latter (M. Pouchet) claiming that it was toxic and more dangerous than cocaine, inasmuch as it suddenly overcame the patient without any preliminary warning, thereby differing from cocaine.

The writer, from a test of eucaine in twenty cases, agrees with the French observers, and considers that it cannot take the place of the older anæsthetic, which is without danger if used properly and not in too strong solution, as is generally the case, thereby giving a useful drug an entirely undeserved reputation for toxicity. Cocaine should not be used in stronger solution than 2 per cent. for operative and 1 per cent. for examination purposes, and must not be applied by means of a spray if

untoward effects are to be avoided, with certain exceptions. This applies to eye, nose and throat cases.

The great majority of medical men are in the habit of using much stronger solutions, and will perhaps consider 2 per cent. as a maximum strength as being too weak; yet in five years the writer has not used a higher percentage, has not had a patient complain of toxic effect, and is fully satisfied with the anæsthesia obtained.

It must be borne in mind, firstly, that certain parts of the nose and throat are difficult to anæsthetise, especially the middle turbinate bone and vault of the pharynx; and it is in operations on these parts that unfortunate symptoms most frequently arise, owing to efforts made to saturate the parts with strong cocaine solution. Secondly, that more or less pain will always be felt in operations of a crushing or tearing nature, involving adnoid tissue or bone, especially the latter, the anæsthetic having its action only on the mucous membrane, which can be thoroughly obtunded by a 1 or 2 per cent. solution without any reaction.

In operations on the tonsils it is best to inject a few drops of a one-half of 1 per cent. solution into the tonsillar tissue, followed by a few local applications of 2 per cent. to the surface of the gland by means of a cotton carrier, which may be repeated a couple of times.

One reason of the superiority of weak cocaine solutions lies in the fact that the first application of the strong solution causes such sudden and complete contraction of the blood-vessels that the power of further absorption is soon lost, and further applications do no good, and passing over a broader expanse of surface than is to be operated upon frequently cause alarming symptoms of collapse.

The above observations upon the action of cocaine are to show that the element of safety in favor of eucaine is not so great as observers would have us believe. In fact, M. Pouchet, after sixty experiments upon animals, says that the toxicity of the latter is nearly as great as cocaine and gave no premonitory warning, which must be carefully considered by any desirous of experimenting with the new local anæsthetic.

A careful examination of the twenty cases where the writer of this article used cocaine and eucaine justifies in his mind the following conclusions:

1st. *In the eye* (three cases of foreign bodies in the cornea, one tenotomy and one irodectomy).

Eucaine in 2 to 4 per cent. solution caused considerable smarting and conjunctival injection; the onset of anæsthesia was delayed longer than where the cocaine was used. The period of insensibility was shorter and followed by itching and irritation of a disagreeable nature, while, owing to the fact that eucaine is a vaso-motor dilator, the field of operation was covered by blood to a much greater extent than was the case in similar operations (tenotomy and irodectomy) where cocaine had been used.

2nd. *In the nose* (three operations on cartilaginous growths and seven cauterizations of the inferior turbinate bone).

In the nasal cavity eucaine falls far short of its rival, owing to the fact that it causes little if any contraction of the soft tissues, which is

so desirable where we wish to operate in a narrow space; for the same reason it is useless where we wish to diagnosticate the condition of the deeper parts. The anæsthesia, while apparently rather thorough, is no better than that obtained by cocaine, and, owing to the dilatation of the capillary vessels, any cutting or sawing operations are rendered very difficult on account of the profuse loss of blood, constant swabbing of the parts with cotton being a *sine qua non*. As to Jobson Horne's and Yearsley's claim that the inferior turbinate bone became insensitive throughout its whole length upon the application of eucaine to its anterior portion, further evidence is necessary, the writer not being satisfied that such is the case, except as the result of suggestion, it being a well-known fact that boracic acid solution has acted as a local anæsthetic where the patient believed that cocaine was used. The claim also put forward that there is less danger of secondary hemorrhage after eucaine is of little weight one way or another, as, in cases where a tendency to such exists, neither eucaine nor cocaine has much effect in causing or preventing its occurrence.

3rd. *On the throat* (one tonsillotomy and four cautery operations upon the tonsils).

In the throat, as in the nose, the anæsthesia produced by eucaine in 4 to 8 per cent. solution was marked, although not any better than where cocaine was used, while the fact that the use of the former was followed by an increase of mucous or saliva militates greatly in favor of the latter, which has the opposite effect, of lessening the salivary secretion, thereby greatly facilitating work on the tonsillar tissue, as any man knows who has experience in the treatment of throat diseases. The writer, therefore, comes to the conclusion that as far as eye, nose and throat work are concerned cocaine will hold its own; the great objection to its use as being toxic not being tenable if used cautiously and in proper strength, while its power of dilating the pupil, of causing contraction of the turbinate tissues, furthering diagnosis, and facilitating operation by rendering it less bloody and of lessening the salivary secretion, place it far ahead of eucaine as a local anæsthetic.

One statement may be added, that a solution containing 1 per cent. of cocaine and 2 per cent. of eucaine gave thorough satisfaction as far as anæsthesia and shrinkage of the soft tissues were concerned in two cases of cautery operations on the inferior turbinate body, and if eucaine be used at all, the addition of a small quantity of cocaine will greatly enhance its value by overcoming some of its drawbacks.

THE EVILS OF WILDE'S INCISION.—Chipault and Demoulin (*Ann. of Ophth. and Otol.*, iv, 4; also *Ann. des mal. de l'oreille et du larynx*) think that Wilde's incision has no advantages, and causes the loss of valuable time. If there is really pus in the mastoid cells, the external incision does little good. It is only useful in cases of simple periostitis. In cases of purulent mastoiditis the incision is not reasonable, because it does not attack the seat of the trouble, but merely relieves the one symptom of pain.

ELECTROLYSIS FOR THE REDUCTION OF SPURS OF THE NASAL SEPTUM.

BY W. E. CASSELBERRY, M.D., CHICAGO.

Electrolysis is a process of chemic disintegration of tissue under the influence of a galvanic electric current, and is not to be confounded with galvano-cauterization. The current strength necessary is from 15 to 40 milliamperes, and 8 to 20 volts, which may be supplied by a 20-cell battery; but the author has adapted the Edison electric light circuit to the purpose by means of lamp resistance and the McIntosh current controller. The duration should be from six to eight minutes.

The chief difficulty in the reduction of cartilaginous spurs is to determine exactly when sufficient destruction has been effected, and care, guided by experience, is necessary to prevent perforation of the septum.

A simple deviation or bending of the septum cannot be corrected or straightened by electrolysis, and its use in such a case can only result in perforation. If, in addition to the deviation, there is excrescence, the thickening may be reduced or removed by electrolysis, but the deviation will remain.

The pain is trifling, but the sensation tends to cause syncope.

The bipolar method, by which two needles, one representing each pole, are inserted into the spur, is preferable. The author's needles, devised for the purpose, are of irido-platinum, fixed to a convenient handle; but ordinary heavy steel sewing needles may be used.

Sixteen cases are reported, classed in three types, according to the composition and location of the spur, and the degree of success attained, from which it is concluded:

While effective in many instances, its scope of application should be limited in accordance with the following principles:

1. Strictly cartilaginous spurs can be thoroughly removed by electrolysis, one, two, or even three operative sittings being required. It is more tedious and less brilliant than the surgical method, but is not accompanied by liability to hemorrhage. It is not to be indorsed as a universal substitute for the surgical method in even this limited class, but it is a serviceable measure for exceptional individuals of both this type and of type 2, *e. g.:*

(*a*) For cases of minor degree, small spurs of cartilage, or of cartilage and bone, and thickened areas, which seem scarcely deserving of surgical treatment, but which one would like to see resolved for the sake of the additional nasal space and better drainage which would thereby accrue to the patient.

(*b*) For patients of delicate physique and those of highly sensitive and uncontrollable nervous organizations.

(*c*) For "bleeders."

(*d*) For those who decline surgical interference.

2. As demonstrated by the cases reported under type 2, it will not thoroughly remove spurs which belong to that large class of mixed car-

tilaginous and bony substance, but it will reduce them in size. The majority of such cases would, therefore, better be treated surgically as being the more thorough method; but instances will arise, as above indicated, in which, the surgical method being expedient, benefit may accrue from the use of electrolysis.

3. As demonstrated by the cases reported under type 3, large spurs, composed mostly of hard bone, cannot be successfully treated by electrolysis, for the reason that needles cannot penetrate properly, and, further, it is doubtful if the process is adequate, even if the needles should penetrate, to the resolution of hard and dense bone, *en masse*.

4. Spurs or excrescence, and not deviation of the septum, is the subject of this paper. Electrolysis is powerless to correct deviated septa of any form.—*The Laryngoscope.*

THE BRACELIN TREATMENT FOR DIPHTHERIA.—In a letter to the editor of the *Journal of the American Medical Association* (July 4, 1896), Dr. P. M. Bracelin gives a description of the remedy for diphtheria which bears his name.

In January, 1893, he discovered this remedy, which he claims meets all the requirements of the ideal remedy. He has been experimenting with, testing clinically and improving on the original idea, until now he believes it to be as near a specific for diphtheria as it is possible for a remedy to be in any disease. Since that time he has treated a large number of diphtheria cases in all stages of the disease, and has lost only about one per cent.; and he believes that he has verified his theory that if chlorine gas, corrected, should prove to be a safe bactericide for diphtheria, it would also be an effective remedy for all diseases of the respiratory organs of a microbic origin.

The remedy consists essentially of chlorin, deprived of its suffocating, irritating qualities by an emollient corrective, Two liquids are used, No. 1 and No. 2., the second being added to the first in proportion of one to five parts slightly warmed, and the vapor inhaled as directed. Some diseases, such as diphtheria and pneumonia, require its use once every hour, others but four or five times a day. The formulas are as follows:

SOLUTION. NO. 1.

Solution zinc chlorid	20 parts.
Solution arsenic chlorid	30 parts.
Hydrochloric acid	1 part.
Water	49 parts.

SOLUTION NO. 2.

Solution chlorinated soda, standardized to 2.6 per cent., available.

Chlorin	70 parts.
Corrective	30 parts.

NOTE.—The corrective consists of menthol, camphor, eucalyptol and salicylate of menthol, dissolved in alcohol and water (the proportions are not stated).—*Laryngoscope.*

PAEDIATRICS.

IN CHARGE OF

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EUNUCHS IN CHINA.

In China the Emperor and certain members of the royal family are alone entitled to keep eunuchs. His Majesty maintains at least 3,000, but no prince of the blood or imperial princess has a right to more than thirty. Theoretically the palace eunuchs are furnished by governors of provinces, each of whom has to supply eight every five years, receiving in return 250 taels per eunuch. It was found, however, that the number thus obtained was totally insufficient, so a recruiting office was estabtablished at Pekin for the direct enrollment of candidates. In the production of Chinese eunuchs four chief factors prevail, viz., greed, predilection, poverty, and laziness. Many parents sell their male children to the mutilators, or themselves castrate them in the hope of eventually sharing their earnings.

Young men of from twenty-five to thirty years of age, some of them having wives and families, often accept emasculation, being allured by the prospects of emolument. Poor wretches destitute of means and threatened with starvation agree to become eunuchs in order to gain a living. Finally, a certain number of lazy, good-for-nothing vagabonds sacrifice their manhood to secure a life of indolence. The operation is performed in a building situated close to one of the palace gates, but the operator, although his office is recognized and is a hereditary one, having been for many years in the same family, receives no regular wages, being entitled to a fee of six taels for each individual operated on. In the case of destitute candidates he exacts a lien on their prospective earnings. Doctor Matignon's description of the operation is as follows:

"The subject, with his abdomen and thighs tightly bandaged, is placed supine on a low bed, one assistant tightly grasping him around the waist, while two more keep his legs widely separated. The operator, as a rule, uses a curved implement resembling a pruning knife, but occasionally he substitutes for it a long pair of scissors. With his left hand he seizes the parts, squeezing and twisting them to diminish the supply of blood: but before cutting he inquires for the last time whether or not the patient is a consenting party. Adults, of course, answer for themselves, no anæsthetic being used, but in the case of children the parents' word is accepted. The reply being in the affirmative, a single sweep of the hand

serves to remove both penis and scrotum, the blade of the instrument passing as close as possible to the pubis. A small piece of wood or pewter, shaped like a nail, is then inserted into the urethra; the wound is washed two or three times with pepper and water, and, several sheets of paper having been applied to the raw surface, the parts are carefully and tightly bandaged. The subsequent treatment is remarkable. Immediately after the bandaging the unfortunate patient is seized by the assistants and made to walk up and down the room at a rapid rate, not being permitted to lie down for three hours. For three days he is not allowed to drink anything, and not only does he suffer the pangs of thirst, but also has to endure the agonies of retention, owing to the plug in the urethra. On the fourth day the bandages are removed and the wretched creature is allowed to pass urine if he can. If the urine flows he is looked upon as cured, but should the over-strained bladder refuse to act he is left to die, the virtues of catheterization being apparently unknown to the Chinese. The amputation leaves a large triangular wound, with the apex downward, which takes on an average about one hundred days to granulate."

Notwithstanding the primitive mode of procedure, the operation is usually successful, and fatal cases do not amount to more than three or four per cent. The most frequent complication is the incontinence of urine, but if this unpleasant symptom continues beyond a reasonable period the patient is condemned to flagellation, a mode of treatment which is said to yield most excellent results.—*The Lancet* (London).

INDICATIONS FOR OPERATIVE INTERFERENCE IN CROUP.

(Variot, *Journal de Clin. et de Thérap. Infantiles.* Vol. iv., No. 39.) By using steam inhalations as an adjuvant to serum-therapy in croup, Variot has found it possible to reduce the number of cases requiring intubation or tracheotomy to fourteen per cent. Sevestre has arrived at the same conclusion, advising late operation, thus giving the serum time to loosen the laryingo-tracheal membranes and quiet the spasm of the glottis. Whenever possible, it is far preferable to cure croup without other treatment than serum injections, for even intubation, while preferable to tracheotomy in children under two, has its very serious inconveniences which can only be obviated by constant watchfulness. Tracheotomy places the patient in danger of immediate accidents (surgical), and of early or late broncho-pneumonia.

However, the question of intervention in croup must be controlled by a precise knowledge of the physiological mechanism of laryngeal obstruction and asphyxia. It is not the quantity of the membrane present which prevents the entrance of air into the respiratory passages—that is, the most membranous diphtheria cases are not always the most suffocating or spasmodic. It is undoubtedly the spasm of the glottis, associated with laryngeal diphtheria, which constitutes the great danger of asphyxia in croup, and here the intubation tube may act as a dilator as well as an air passage. Infants under two seem to be subject to more

severe spasm of this kind than older children, while rachitic and nervous children are also affected by a more severe type. Croup, complicating a pre-existing broncho-pneumonia, requires interference almost invariably.

However, it is rare to have a first attack of suffocation so severe as to make intubation indispensable, and it should only be resorted to when the attacks are very frequent and the patient remains livid and with dyspnœa in the intervals.

Every case of diphtheria with laryngeal symptoms should be carefully watched, and the instruments for intubation or tracheotomy should be kept ready for immediate use if required. Naturally, where close observation is not possible (in the country), it is better to operate prematurely than to find the patient dead at the next visit.

HYSTERIA IN CHILDREN.

JOLLY (*Archiv für Kinderheilkunde, 1896, xix, 556.*) All the local manifestations of hysteria, the seizure as well as the real disturbances of the mind, are observed in children as well as in adults. We often see local disturbances and intractable pains confined to one region of the body (e. g., so-called neurosis of the joints) with which spastic conditions, such as paralysis and tremor, are frequently combined. Particularly are hysterical contractures and palsies observed in convalescence from acute and chronic diseases, when after a long period spent in bed the patient is urged to leave his bed and move about. Sometimes marked stuttering or muteism, either of short or long duration, is observed In hysterical seizures highly increased emotional expressions are indulged in, spasms of screaming alternate with spasms of crying or laughing, and jacitation of the extremities occur.

Etiology.—Hysteria does not originate in the uterus, its manifestations make their appearance long before puberity, in the boy as well as in the girl. There is no doubt that genital excitation (particularly onanism) does sometimes play a rôle in its production, but the main etiological factor is always an inherited neuropathic disposition, and this together with debilitating diseases, poor nourishment, anemia and an immoral education may lead to hysteria.—*Pediatrics.*

THE BICYCLE.

We all have our hobbies and we do not like to hear them attacked, but of all the hobbyists those who ride the double wheel are perhaps the most intolerant of criticism of their favorite exercise. Nevertheless, at the risk of offence to these "techy" enthusiasts, medical men ought to insist upon the need of moderation in the use of the bicycle by children. We do not refer here to the alleged danger of spreading the pelvis of young girls, for we fail to see that there is any such danger when a properly constructed saddle is used, but to that of permanent heart injury. Children, boys especially, are always tempted to rival their older play-

mates in feats of strength and endurance, and in no sport is this temptation more irresistible than in wheeling, and in none are the consequences of yielding to it more baneful. In ordinary games, even if the child taxes himself beyond its strength, the strain is of short duration and the heart readily recovers itself when the task is accomplished; but not so with bicycling, for here the strain is kept up perhaps for hours, and the injury done to the heart in a single afternoon may be beyond even the recuperative powers of youth to undo. We believe in the wheel, we believe that this form of exercise is a capital one, but we believe also that there is a great and ever present danger of overdoing it, and that the results of such overdoing are lamentable. The evil of excess in adults, especially in elderly adults, is greater than it is in children, but adults, when once warned, must look out for themselves; children, however, must be protected against themselves. It is the duty of the physician to warn the natural protectors of these children. Let them wheel by all means, it will do them good, but let it be seen to that they do so in moderation.—*Pediatrics*, Jan. 15, 1897.

TREATMENT ON STOMATITIS.

STOMATITIS APHTHOSA.—The ulcers must be frequently touched with a cotton swab dipped in one of the following solutions:

℞ Sod. salicl..... 20.0
Aqua distill.....100.0

or,

℞ Sod. borici..... 3.0
Sod. salicyl..... 5.0
Tinct. myrrhæ..... 4.0
Aqua distill..... 30.0

or,

℞ Sol. chloric..... 6.0
Aqua laurocer..... 15.0
Syr. althea..... 25.0
Decoct. papav.....200.0

The patient must drink only boiled or sterilized milk.—*Pediatrics.*

A SIMPLE MEANS OF THROAT EXAMINATION.—J. D. Milligan says that it is well known that many children have a dread of the doctor's visit—especially should the visit be made because of throat disease. The fears are increased if a spoon or tongue depressor is thrust down into the throat without ceremony. All of this may be overcome by a method used by him for the past twenty years, which can be successfully practised in nearly every patient over three years of age. It consists in simply teaching the child to use the index finger of either hand, thrust back along the tongue as near the base as possible, with the injunction to open the mouth wide and press down the tongue. In this way can

be secured, after one or two attempts, a perfect view of the tonsils and in many instances even of the epiglottis and the adjacent folds.

The reason why this is preferred is based on, first, the fact that a child, or even an adult, does not fear any injury from his own finger; second, his own effort will not provoke emesis or straining, as a trial will convince the reader; third, there is no danger of contamination by a dirty spoon or depressor, and no possibility of auto-infection, and finally, the fingers are always at hand. This plan of course is impracticable in the moribund and in infants, but at least ninety-five per cent. of all instances of acute and chronic disease of throat or of foreign bodies can be more successfully examined by it than by any other method. The purport of this note is particularly directed to the busy every-day doctor and not to the specialist.—*Med. Rec. 1896 l, 765.*

CREOSOTE IN THE TREATMENT OF CHILDREN.—(Hock, *Wein Med. Blatter; Med. News*, 1897, Vol. lxx., No. 6.) The author has had brilliant results from the use of creosote in treatment of children, not only in phthisis, but in the sequelæ of whooping cough and the catarrh which so often follows measles. These two conditions, as is well known, furnish a favorable opportunity for tuberculous infection. The usual treatment with expectorants is too often without result. Most diseases of childhood are accompanied by disturbances of digestion, and these are the symptoms which are first relieved by the use of creosote. The appetite improves, the abdominal pain disappears, and weight increases. Later the pulmonary condition improves. It goes without saying that the creosote must be given in such a manner as not to upset the stomach, and large doses in a concentrated form are, therefore, to be avoided, the drug being given in small doses with meals. Pills, though cheap, are objectionable, especially for very young children. Hock tried in a number of instances to administer fluid creosote with tincture of gentian, but in almost every case the stomach refused the medicine after a few days. He was most successful with one or two per cent. solution of creosote in cod-liver oil, to which one-twentieth of one per cent. of sugar was added. The dose of this mixture is from one-half a dram to one-half an ounce, three times daily, according to the age of the patient.

A COD-LIVER OIL EMULSION.—Dr. J. W. Moore recommends the following cod-liver oil for delicate children, and also for older persons:

℞ Ol. Morrhuæ ..... ℥ ij;
Liq. calcis sacch ..... ℥ ss;
Essentia cinnamome ..... ℥ ss;
Glycerini ..... ℥ jss;
Aq. ad ..... ℥ vj.

M. Ft. emulsio. Sig. A teaspoonful to a tablespoonful thrice daily after food, the bottle having first been shaken.—*Practitioner.*

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☞ *Communications solicited on all Medical and Scientific subjects, and also Reports of Cases occurring in practice. Address,* DR. J. L. DAVISON, 20 Charles St., Toronto.

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The Largest Circulation of any Medical Journal in the Dominion.

Editorial.

OUR AMERICAN BRETHREN AND THE BRITISH MEDICAL ASSOCIATION.

We have heard with regret, and some little surprise, that our remarks anent visiting brethren at the next meeting of the British Medical Association have been construed by some across the border as indicating our joy at their being thus debarred. Our information is that a leading New York physician, occupying a prominent position in a hospital there, expresses himself as believing that "THE LANCET," meaning THE CANADA LANCET, "was glad that Americans could not take part in discussions," etc.

Of course the wishes or desires of the editor of this journal can have but little effect upon the sensibilities of American practitioners; but it seems this journal is taken as voicing the desires of the Canadian profession. So we hasten to state that *we exceedingly regret*, and are assured that Canadian doctors, as a whole, regret the fact, that under existing circumstances Americans will not be allowed to take part in discussions.

The paragraph alluded to appeared in our January issue, and reads as follows:

"With reference to the presence of American practitioners at the meeting of the Montreal Branch, the branch finds itself in a position of some little delicacy. Members would very willingly invite practitioners across the border to become members of the Association, but, unfortunately, there is a recent by-law to the effect that none but British subjects can gain membership. The hope to have the by-law amended is destroyed by the occurrence this year of the International Medical Congress at Moscow. To amend the by-law would throw the Association open to the charge of attempting to promote a rival international meeting. It is to be understood that, in the present condition of politics, it would be a grave mistake for the Association to throw itself open to this charge. It has, however, been the custom in previous years to invite a series of guests

to the meetings, and, acting on this precedent, the leading American authorities in the various branches of medicine will undoubtedly be asked to attend at Montreal."

The above statements seem clear enough to give offence to no one. Certainly we thought the explanation as to why the by-law, which, with all due deference, we think a narrow one, could not be changed simple enough and the reasons sufficiently weighty.

We may not be at one with our American friends on the question of lumber, seal fishing, alien labor, the Eagle's scream, and one or two other minor points, but we go heartily for the most free and complete reciprocity in matters of medical knowledge.

It is to be hoped that many, very many of the prominent members of the profession in the United States may receive invitations to be present at the meeting, and avail themselves of them.

MEDICAL SCHOOL JOURNALS.

Our esteemed contemporary, the *Medical Review*, has apparently borrowed from its correspondent, Dr. Sangster, the term "School Journal." The term may suit Dr. Sangster, with whose literary flux we have, God wot, nothing to do; but that our "Independent" friend should so readily adopt the expression "School Journals" is, to those who know a little, only a very little, and very insignificant at that—medical history, extremely ludicrous.

Tempora mutantur et nos in illis mutamur.

We did endorse the petition of the Council to the Legislature. In our opinion, the principles underlying the petition are correct. The time for presenting it, however, was inopportune. This will answer as to the "why." We have always striven to be fair to the Medical Council, believing it to be a useful and necessary body: not immaculate, often wrong, sometimes even stupid. It has had rings, cliques and heelers within its sacred body, but, taken for all in all, has been a good body and a useful body. While we say we have supported it, we never gave it a factious support, nor were we ever interested financially in its rise or fall to the value of one cent. If we made a mistake in supporting it we were never paid, either directly or indirectly, for so doing.

We must object to the the term "School Journal" as applied to us. True, the editor and a number of the associate editors are members of Trinity, but no one can show that this journal has ever used its columns or allowed them to be used except for fair play—factitious journalism being, in our opinion, low in the scale of professions.

Rampant partyism, which so many people now affect, has always been, to say the least, extremely offensive to us. It seems to be a necessity—more's the pity.

We have rather discouraged effusions from correspondents. We find that such correspondents are either afflicted with the *cacœthes scribendi*, a nasty disease, indeed—we would prefer to treat a case of smallpox—or else have an axe to grind. Our journal is, we hope, more scientific than polemic, and such we hope it may be while it exists.

THE LIABILITIES OF HOSPITAL TRUSTEES.

Dr. Ryerson has introduced into the Legislature a Bill respecting the liabilities of hospital trustees, which is deserving of the cordial support of the profession. In substance this Bill proposes that actions for malpractice shall lie against the trustees of an endowed hospital in the first instance, and not against the attending surgeon. It does not take from the trustees the right to bring action to recover damages from a negligent or unskilful medical attendant or medical officer of the hospital should it be clear that such employee is a member of the resident or non-resident staff. But actions for malpractice are almost invariably speculative suits, and it has rarely, if ever, been proved that the patient has either been neglected or maltreated. Such suits are fraught with much annoyance, mental distress and financial loss to medical men, for even should the suit be unsuccessful the defendant must in almost all cases pay the costs, because the party bringing the suit is financially worthless. It does not seem to be generally known that the law looks to the man who has the money to pay the costs, whether he be mulcted in them or not. Hospital trustees avoid the liability by claiming that they have no power to use their trust or other funds for this purpose. Dr. Ryerson's Bill gives them this power. It seems to us to be a gross injustice to the attending staff that they should be liable, while giving their time and services gratuitously to hospital in or out patients, to speculative suits, on account of which the trustees disclaim any financial obligation. Some think that the Bill should make it a condition of acceptance of charity attendance that right to suit should thereby be invalidated. The law, however, will not permit of the withdrawal of the right to suit on the part of any citizen; therefore, such an Act is impossible. We would urge our readers to write their representatives in the Legislature to support Dr. Ryerson's Bill. The Bill does not apply to unendowed hospitals.

COLD AIR IN INCIPIENT PHTHISIS.

The paper presented by Dr. Playter at the last meeting of the Canada Medical Association, on Cold Air in the Treatment of Incipient Phthisis, was published by the *American Medical and Surgical Bulletin*, and has been issued in pamphlet form. Dr. Playter contends that the cold air meets the two principal indications: "(1) lessens the virulency and activity of the bacilli, and (2) purifies, invigorates and fortifies the body better than any other known remedy. The colder the air the more oxygen it contains, bulk for bulk; the more it acts as an antiseptic; the more it expands when it has been inspired, and in expanding dilates the air-cells or chambers of the lungs; and the more it must tend to cool the overheated lung tissues, rendering them less favorable for the multiplication of bacilli. The pure, cold air quiets the cough, lowers the fever, arrests the night-sweats, restores the appetite, and retards the course of the disease."

But besides the cold air, Dr. Playter, while endeavoring to specially suit the diet—quality and quantity of food—to the *assimilative* powers of each individual case, has special attention given to the skin, for aiding and relieving the respiratory function. For this, the rain bath, in which the water has a drop of at least 40 or 50 feet, tempered as to suit each case, has been found highly valuable, producing a sort of skin-massage. In debilitated and feverish cases, he enjoins almost absolute rest and muscle-massage. Dr. Playter is organizing a company, consisting largely of the leading physicians of Ottawa (and in this, it appears, he is meeting with excellent success) for building a sanitorium in the Gatineau Hills, a few miles from Ottawa, for high-class, well-to-do patients, early in the coming spring. Meantime he is prepared to treat patients, as above indicated, at Sydenham House, Ottawa, where he has all the facilities for the treatment.

HOLIDAYS.

It is one of the fashions of the times to assert that holidays are more necessary now than they were not so many years ago. The reason usually alleged is that, owing to the high pressure and hurry of the present day, the human brain requires longer and more frequent rests than formerly, and that competition is so great that a larger number of "days off" are absolutely necessary to repair the waste of grey matter used up in the inevitable struggle. We are inclined to think, however, that the holiday craze is going too far. The best mode of giving the brain-tissue its required rest is not to indulge in furious "biking," nor yet to drowse away a week or a month in a sleepy hollow. The brain does not need, when healthy, even a week's rest: a good night's sleep is much more to the purpose. Still better is a hobby, and especially one which calls for some mental effort different from that required in the daily work. Any professional man who has no interests beyond his profession, or no chance of varying his daily duties, has our sincerest pity. To take the case of medical men themselves, the day's work is far more fitly ended by mental exercises of some difficulty rather than by desultory reading. In the first instance, the brain works in another groove to the benefit of all its functions; in the second, it may be said not to work at all, in the proper sense of the word, most of that which is read never reaching the higher centres. To turn again to the more general aspects of the case, how many business men now require their afternoon off, and their Saturday's and, it may be, their Sunday's stay in the country as well? For the benefit of the family, also, a house is taken in the country for two to four months, where the children learn to idle, and the breadwinner journeys long distances several times a week to town to do his work. The common-sense expediency of this is not always obvious. We are not at all sure that holidays of more than ten days or a fortnight at a time are good for anyone who is in health and has work to do. For those who never do any real work, all time is practically a holiday, and it is immaterial where it is spent. The return after a long holiday is usually signalized by restlessness, inability to concentrate the mind to the de-

tails of work, and, though this may appear paradoxical, by a proneness to attacks of disease. It would be quite worth while for someone to investigate the statistics bearing on this point. We ourselves have often noticed that more visits have to be paid in October and November, shortly after the holiday season, than in any other time of the year, except the end of February and the whole of March. Some may be disposed to ascribe this to increased liability to infection from insanitary houses or convalescent fever patients. But it is not fever cases to which we refer—they increase, indeed, at that time, owing to the opening of the schools—but to the ordinary complaints of the respiratory and nervous systems. These are probably caused bv recklessness with regard to rain and damp, innocuous in the country from the more active habits, and by the greater and sudden confinement to the house for a large part of the day. Short holidays two or three times a year are probably of more use than one long one, while, if the week-ends are often spent out of town, less than that is enough. The constant wish to get away from work, which is so characteristic of the present day, indicates little love for it, and that little love betokens degeneracy. Turning again to the medical side, those whose practice lies in the richer parts of a city, often find now-a-days that the majority of their patients have flown to pastures new on the advent of summer. In some of the more residential districts, such is the passion at present for prolonged holidays that families rent a country house for four months, and the doctor finds little to do. It is a fact that in one town, with a favorite watering-place within an hour's journey by train, a fashionable physician finds it worth his while to go down in summer within easy distance of the pleasure resort, visit those of his patients who are living there, while he comes up to town daily to continue his ordinary work. It is a question whether the doctors who live in the west end of cities will not soon have to copy the habits of the British practitioners in the Riviera, and practise in the favorite watering-places of their patients in the summer months, returning to town at the close of the season. So extensive is the efflux of the monied classes from some cities that their physicians can only count on seven or eight months annually in which to make their bread and butter.

MARRIED.—At Toronto, April 1st, 1897, P. G. GOLDSMITH, M.D., of Belleville, to ALICE DAVIS, granddaughter of the Hon. Geo. A. Cox.

We have in our midst a most comfortable Home, which is, perhaps, not so well known to the general public as many of our other institutions. Hillcrest is delightfully situated on Wells' Hill, with an experienced nurse in charge, and the perfect rest and quiet to be obtained there is very refreshing to those worn out by illness, or only requiring change of air. The rooms are bright and airy, and the views from the verandahs over the city and across the lake varied and extensive. The house is within easy walking distance of the terminus of the Bathurst Street cars, directly north of the C.P.R. track.

MAYDI, K.: INCLUSIO FŒTALIS ABDOMINALIS. (*Wiener Klinischeh Rundschau*, x., No. 17, p. 295, 1896. *Arch. of Pæd.*).

In a well-developed but very anæmic man, nineteen years of age, a tumor was found occupying the greater part of the pelvic cavity. Laparotomy was performed, when the mass was found to be situated between the two folds of the root of the mesentery; it consisted of a well-formed trunk and limbs. The head was entirely absent, and in its place a tuft of hair, fifty cms. long, was inserted upon the trunk. The fœtus was enclosed in a firm amniotic sac which contained some oily fluid. A thickening of the amniotic membrane, connected with the superior mesenteric artery, showed histologically the structure of the placenta. An umbilical cord was entirely wanting; and the nutrition must have been accomplished through broad and narrow adhesions situated between the amnion and the fœtus.

CLEANLINESS IN CATARRH.—Dr. Edwin Pynchon, in an article in the *Annals of Ophthalmology and Otology*—(*Atlantic Med. Weekly*)—calls attention to the widely varying formulæ of Dobell's Solution given by different authors, and incidentally mentions what is a really practical question in the treatmentof naso-pharyngeal catarrh.

Numerous preparations are widely advertised as adapted for cleansing purposes in the nasal cavity, and are possibly of real merit, but the price asked for the product is so exorbitant, that to people of moderate means the expense is a serious factor, while to the poor it is beyond their purse, and in each case, after the prescription has, perhaps, been filled once, they cease its use, and go back to the home remedy of salt and water of varying strength, and usually with disastrous results.

The Seiler's tablets, made by different manufacturers, also vary in strength and composition, and our experience has taught us that several of those on the market can not be used without causing great smarting, and even pain.

The fluid used in cleansing the nasal cavities in both atrophic and hypertrophic rhinitis should be of about the specific gravity of the serum of the blood, and this is acquired in the solution advised by Dr. Pynchon, which is as follows:

℞	Sodæ Bicarb.....	2 ounces.
	Sodæ Biborat.....	2 ounces.
	Listerine (Lambert's).....	8 ounces.
	Glycerine.....	1½ pints.

One ounce of this formula added to a pint of water yields a bland and pleasant alkaline solution with a specific gravity of 1.015.

The addition of the Listerine takes the place of the carbolic acid in the original formula, and is a decided advantage, as it imparts a pleasant taste, and is quite as efficacious as the acid.

The common use of Listerine and water should be superseded by the addition of the alkaline solution given, and in the preparation thus made, we have all the advantages of any cleansing agent, and it can be furnished at a price commensurate with all pockets.

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POISONING BY ILLUMINATING GAS.

BY J. E. GRAHAM, M.D., L.R.C.P., LOND.
Professor of Clinical Medicine University of Toronto.

Cases of gas poisoning have of late years occurred so frequently that no excuse is necessary for a special reference to the subject.

Notwithstanding frequent warnings, so long as a very poisonous gas is introduced into bedrooms which can be so easily turned off or on, accidents will occur, and it is the duty of the practising physician to be ready to adopt at once the most effective measures to restore the patient to health, if that is at all possible.

In the two cases which have recently occurred in this city special warning was given, and it would really seem that the accident might have been brought about by extreme anxiety rather than by carelessness.

The history of the cases is as follows:

Two young ladies came on a visit to the city on a Monday, and retired about eleven o'clock Tuesday evening. They slept in a double bed in a rather small room. At 8.30 on Wednesday morning gas was noticed in the halls, and, on examination, it was found to escape from the keyhole of the bedroom occupied by the patients. The door was forcibly opened, and the patients were found lying on the bed in an unconscious condition. The elder one was on the side of the bed furthest from the wall and nearest the door. The position, the limbs partly out of bed, indicated an attempt to get up when she was over-

come by the poison. The younger one was on the inner side of the bed, and her body was straight. Both were quite unconscious, and the air of the room was strongly impregnated with gas. The gas-jet was found turned on. Help was immediately summoned, and the patients were removed to a pure atmosphere. Artificial respiration was used in both cases, strychnine was injected hypodermically, and brandy was given per rectum.

The elder of the patients, Miss B., the one who was found partly out of bed, was in a deeply comatose state. The pulse was quick and weak, and a large amount of gas was given off from the lungs. The patient did not vomit. During the day the conditions remained unchanged; at times the breathing was loud and stertorous, and at times quiet. The pulse ranged from 120 to 130 and was weak and small. The face presented peculiar eythermatous patches. On the evening of the day of the accident the patient's face was livid with some bright red spots on the cheeks, and the surface of the body was covered with cold perspiration. Oxygen gas was administered with apparently good result. The pulse became fuller and more regular. The spasms of the limbs, especially of the arms, were not so marked as in her sister's case. Urine and fæces were discharged involuntarily. On the next day the condition became gradually worse. The coma deepened, and it required a greater amount of irritation to rouse her at all. On the first day severe pinching of the skin would cause the patient to move the limbs. The temperature rose gradually until, on the evening of the second day, it reached 104. The pulse and respiration also increased in rapidity until shortly before death, which took place 66 hours after the accident; the respirations were 80, pulse 150, and temperature 105. The temperature was taken in the axilla. If it had been taken in the rectum the thermometer might have registered even higher.

The treatment in each case consisted in the administration of strychnine, nitro-glycerine and caffeine. Oxygen gas was given by inhalation. This patient, for some reason, seemed more deeply poisoned, and from the commencement appeared to be more prostrate than her sister. The very high temperature would indicate a marked toxhæmia.

The second patient, Miss A. B., seemed at first to be in a very similar condition to that of her elder sister. She, however, suffered from nausea and vomited freely. The vomited matter had a strong odor of gas. When the patients were seen by me in the afternoon, this one, the younger, did not seem to be so profoundly comatose as the elder. She could be made to move by pinching the skin. The breathing was more decidedly stertorous than that of her sister. She, at times, had severe tonic spasms of the arms, which often extended to the lower extremities, amounting almost to a convulsion. The pupils were sometimes contracted and did not respond readily to light. The lips were slightly bluish, and the cheeks flushed. Her face became livid when she was moved on her right side. The pulse was not so rapid; the breathing became constantly stronger after the first few days and was full and regular. This condition of stupor continued 79 hours. The first sign of consciousness was the closing of the lips over the spoon when milk was given, and

thus preventing the giving of nourishment. The spasms of the extremities increased as the stupor passed off, and continued for two days afterwards. During the unconscious state, the urine was drawn off by catheter. This continued to be necessary during the first four days. Then for four days the micturition as well as defæcation were involuntary, after which time both functions were normally performed. The urine on the fifth day was albuminous, no sugar sp. gr. 1,036. The temperature continued raised throughout the illness, generally about 100. During the first few days after the unconscious period the patient suffered more or less from aphasia. She had difficulty in finding words; for instance, she called the thermometer the refrigerator. She did not appear to know her position in bed, thought she was lying crookedly when she was straight, and vice versa. She slept well as a rule, but had a habit of talking incessantly during waking hours, and was at times delirious, even two weeks after the return of consciousness. She was able to use her arms the second or third day after the accident, and on her return to consciousness she could use them freely. She suffered, however, from complete paraplegia, which continued for more than a week after the exposure. About the end of the first week a number of boils appeared on the lower extremities, above and below the knees. A bed sore formed on the lower part of the spine. Slight pressure on any part seemed to produce soreness. A peculiar mental condition followed the semi-comatose state, and this to some degree continues. She is irritable, easily excited, and asks childish questions. She is naturally very matter-of-fact and quick of comprehension. She is still very weak and is easily discouraged when she finds that she is unable to go about freely. Three weeks after the accident she did not seem to have the least idea of what had happened. She thought that she had passed through a very severe illness, but has no recollection of anything that occurred immediately before the accident. She remembered coming to the city, and about some entertainment at which she was present the day before the poisoning.

The treatment, after the first few hours, consisted largely in the hypodermic administration of strychnine. Oxygen gas was given with apparent benefit. The bowels were moved by enemata, and saline solutions were given per rectum. This had a decided effect in increasing the amount of urine. They were given to assist in the elimination of poison by the kidneys. About the fifth day these injections were omitted forty-eight hours, when the urine became scanty and sp. gr. 1,036. After the saline solution was again given the urine became increased in quantity and sp. gr. 1,020. Nitro-glycerine was given for the first week in 1/100 gr. doses. In the latter part of the illness general tonics were administered. A peculiarity in the case was the unfavorable symptoms which followed the administration of stimulant. After brandy was given by Enema, the breathing became more stertorous and the coma deeper.

Sponging with warm water was frequently done to keep the skin in as healthy a condition as possible.

The active poisonous agent in poisoning by illuminating gas is the Carbon Monoxide which exists in gas as it is at present made, in the proportion of 20 per cent. to 30 per cent.

This compound formed but from 5 per cent. to 10 per cent. of illuminating gas as it was formerly manufactured. When it is remembered that 1/10 of one per cent. is sufficient to render an atmosphere uncomfortable, and that from one to 10 per cent. will produce death when inhaled sufficiently long, one is not surprised that patients who have been exposed to illuminating gas as it is now made should so frequently die, notwithstanding all our efforts to save them.

The effects of Co. upon the blood and tissues are still under discussion. It certainly combines with the hæmoglobin of the blood, dispelling the oxygen and producing a much more stable compound. The blood corpuscles are paralysed and no longer act as carriers of oxygen. For this reason, it is exceedingly difficult to free the system from the poison. It produces directly deleterious effects on the nerve-cells, a fact which may to some extent account for the spasmodic movements which characterize this form of poisoning. The presence of this compound in the system produces a large amount of disintegration, and the kidneys are often put to a very severe test in eliminating the waste matter from the blood.*

The symptoms of gas poisoning are so well known that I need scarcely give them in detail. Their character depends to a great extent upon the process of poisoning. If a patient is exposed for a length of time to a moderate amount of gas, the symptoms may extend over several days. When, on the other hand, there has been a short exposure to a large amount of gas, if the patient recovers he does so rapidly. In the former class of cases time is given for chemical changes to take place in the blood, and tissues and combinations are formed, hurtful to the system, which are exceedingly difficult to remove; hence, the duration of the symptoms. In such cases the principal manifestations are stupor, deepening to profound coma, the presence of tonic spasms, and a decided elevation of temperature. The depth of the coma and its duration will depend largely on the length of time the patient has been exposed, as well as to the proportion of gas in the atmosphere. The coma is probably partly caused by want of oxygen by the direct effect of the gas upon the brain tissues, and partly the effect of toxines, the result of the tissue disintegration which has been already mentioned. The coma in one reported case lasted ten days, when a fatal termination ensued. Convulsions are sometimes present. In the cases under consideration the tonic spasms of the limbs were so general as to amount almost to convulsions. The elevation of temperature to 100 and 101 is a very constantly-observed symptom, and was present in both cases. In the fatal case 105 was the highest point reached, whereas in the other 101 was the highest recorded. This is probably due to the very rapid changes which directly

* Dr. Haldane (*Brit. Med. Journal*, Oct. 3rd, 1896) maintains, first, that Carbon Monoxide, apart from its action upon hæmoglobin, is a physiologically inert gas, and that the symptoms it gives rise to are due, not to any positive action upon the tissues, but simply to its negative action in depriving them of their oxygen ; and, secondly, that the stability of Carbon Hæmoglobin is in inverse proportion to the tension of the oxygen in the alveoli.—(Dr. Davison).

According to this view, the nervous symptoms are due to the absence of oxygen and to the slight hemorrhages described, and not to any direct effect of the gas upon the nerve-cells.

The usefulness of oxygen given under pressure is also proven. The gas might thus be given by means of Dr. Fell's respirator.

result from the action of the poisons. Experiments have been carried on in Dorpat by M. Edelberg, under the direction of A. Schmidt, which demonstrate that the fibrin ferment set free by the disintegration of red blood corpuscles causes pyrexia. A loss of memory of events preceding the accident is a very common symptom. A case is reported in which a young girl was subjected for three hours to a very moderate amount of gas. She did not become unconscious, but suffered from nausea and general malaise. She could not recall anything which preceded or occurred for a day and night after it. Extraordinary cases have been reported from time to time. Litten reported a man restored by long continued artificial respiration. He had afterwards paralysis and œdema of the right arm.

The case of a workman is given who was completely unconscious until the transfusion of a normal saline solution. The patient then slept ten hours and awoke comparatively well.

Marcel Briant (*La Semaine Médical*) reports a case of disorder of the intellect after gas poisoning. The patient, a young girl, could not recollect any of the circumstances preceding the accident.

A matter of a good deal of importance in connection with this subject is the condition in which those are found who have been for a long period (weeks or months) subjected to a small amount of carbon monoxide in the atmosphere: those, for instance, who have lived in rooms where there has been a slight escape of gas. The symptoms are those of general debility, anæmia, together with anorexia and more or less headache. A dry, irritating cough is often present.

These symptoms, which are too often thought to be due to nervous exhaustion from overwork, are at times the direct result of the action of a small amount of gas on the system.

The secondary consequences of poisoning by illuminating gas have been carefully studied. It is not surprising that an agent which produces such profound chemical changes in the blood should cause many secondary pathological conditions. Gas poisoning has been followed by bronchitis, hæmoptysis and pneumonia, persistent headache, mental apathy, neuralgia, paralysis, delirium, cutaneous hyperæsthesia, sometimes localized anæsthesia, chorea aphasia, certain trophic disturbance, and gangrene (F W. Draper, M.D., *Med. Times and Register*, Mar. 14th, 1896).

In cases of poisoning of the blood by carbonic oxide, there is, according to Thoma, an increased permeability of the capillaries, resulting in local hæmorrhage. This accounts for many of the nervous symptoms.

Post-mortems are frequently made in fatal cases of gas poisoning; but the reports have not been as exhaustive as one could wish.

Templeman found the following conditions: the brain was deeply congested, and more or less fluid was found in the subarachnoid space and in the lateral ventricles. The lungs were congested, engorged with dark, thick blood, and in some cases little air was found. A decolorized blood-clot was found in the right ventricle; the left one was empty (*Brit. Med. Journal*, 1894).

Dr. Draper gave the following account of the post-mortem examination of a typical case: Structure of the heart, normal; the cardiac cavi-

ties contained blood of a light cherry-red color, and showed a few stringy clots; there was no engorgement of the right auricle or ventricle; slight reddening of the bronchial and tracheal mucous membrane, and the air-passages contained froth tinged with blood: the spleen was large, soft and red; stomach healthy; intestines showed a reddening of the mucous membrane in the jejunum and upper part of the ileum; pancreas was a pale reddish colour; the liver congested and of a heightened color; kidneys injected and of a cherry-red color.

Hemeke performed experiments on animals, and found the blood bright red and more or less fluid. Widespread blood extravasations were found in submucous tissues. In the organs of different animals experimented on white thrombi were found, the result of changes in the white corpuscles, which caused them to adhere to one another.

In acute cases the blood is cherry red and liquid. The lungs are engorged and the tubes are filled with mucous. The presence of Co. in the blood can be positively demonstrated by the spectroscope. The spectrum of ox. hæmoglobin is similar to that of the combination of Co. with hæmoglobin; but the spectrum of the former disappears in the presence of a reducing agent, whereas that of carb. ox. hæmoglobin remains. This may be a means of diagnosis both before and after death. In the more chronic cases, when death takes place after some days, capillary hæmorrhages and patches of softening are found. These lesions explain the nervous phenomena which have been already described.

The prognosis depends on the proportion of gas in the atmosphere and the length of time during which the patient has been exposed. A patient who has been exposed for a short time to a large amount of gas will recover much more quickly than one who has been exposed for some hours to a small proportion of gas. In the latter case chemical changes take place in the blood and tissues, which have been already described. It is generally stated that when a patient has been exposed to illuminating gas for eight hours and is found in a comatose state, the prognosis is exceedingly grave, and that, under such circumstances, death may be expected. It must be remembered that during sleep a small proportion of Co. may produce death, if the patient has been for a long time exposed.

TREATMENT.

The first and most important part of the early treatment is to free the system in every way of gas. It may be expelled from the respiratory tract and lungs by first moving the patient to a pure atmosphere, and then practising artificial respiration so long as any odor of gas remains on the breath. In some cases artificial respiration has been kept up intermittently for hours with good results. It is quite probable that during the stupor which follows gas poisoning, the "besoin de respirer" is not so marked as in health, and that artificial respiration is necessary for the complete oxygenation of the blood. The utility of the administration of oxygen gas has been doubted by many. The combination of the hæmoglobin with Co. is so strong that it is not displaced by the oxygen, and it is generally thought that forced respiration is quite as beneficial

as the administration of oxygen. It will be noticed that in the cases reported the elder and stronger of the two did not vomit and afterwards succumbed; while the younger and weaker patient vomited when she was removed from the bedroom, and, after a long period of unconsciousness, recovered. As both patients were subjected to the same amount of poison, it might be considered that the vomiting saved the younger and weaker patient. I think it more likely, however, that perhaps from a peculiar idiosyncrasy the elder was from the first more affected by the gas, and on that account did not vomit. The vomited matter, however, had a strong odor of gas, a fact which would go to prove that in this way the system had been freed from a certain amount of poison. It would, therefore, be advisable to empty the stomach and bowels as soon as possible. A tube might be used in washing out the stomach, and large hot water enemata might be given per rectum.

On account of the combination of the hæmoglobin and the Co., some physicians have bled the patients, thus freeing the circulatory system of a large amount of poison. At the same time a normal saline solution may be introduced into the veins. This practice has been followed by good results, and could easily be carried out in severe cases. The weak pulse would appear to be at first a counter indication, but when it is considered that the weak pulse results from a heart muscle weakened by poison, the seeming objection is removed. The more rapidly the circulatory system is freed from poison, the sooner will the myocardium resume its tone.

In one case reported, the injection of a small amount of saline solution appeared to have a good effect. In the following case a fatal result occurred, notwithstanding all these remedies.

Broadbent (*Brit. Med. Journal*) relates a case of a man who was found in an unconscious state. Oxygen inhalations were tried, the patient was bled, and transfusion of defibrinated blood was practised. Tr. ferri mur. and Lig. arsenic. A slight improvement followed. Hydrochloric acid was given. He began to recognize those around him on the tenth day, after which a relapse took place. Extreme weakness, muscular wasting, and profuse sweating followed. Death took place on the nineteenth day. His wife, who was subjected to the same poison, recovered in a week. The fatal result in this case might have been due to secondary lesions already described.

Having freed the system as rapidly as possible from gas, the next indication for treatment would be to support the system, and to assist elimination of poison by the kidneys and bowels. The cardiac weakness, which is such a pronounced feature, is best counteracted by strychnine, which may be given hypodermically. Nitro-glycerine has been strongly recommended as a cardiac stimulant, and together with strychnine was given by Dr. Willoughby from the commencement in the cases mentioned. Caffein appeared also to have a good effect, especially on the patient who recovered.

At the same time milk may be given freely. It is probable that it would be more readily digested if given in a peptonized form. The administrations of a normal saline solution were of great benefit in these

cases. The kidneys are the great eliminating organs, and the marked increase in the quantity of urine excreted must have had a decided effect in freeing the system of toxines. It would appear from the protracted course of these cases that toxines are formed in large quantities from the disintegration of the proteid compounds, and the presence of those are a source of danger.

Care should be taken that the body is not chilled, so that the kidneys are guarded from congestion. This warning is often necessary, because in the free admission of fresh air the temperature of the room may be too much lowered. In some cases it is necessary to have resource to hot water bottles to keep the extremities up to the normal temperature.

SURGERY OF THE KIDNEY.—Dr. Bayard Holmes (*Jour. Amer. Med. Assoc.*, Sept. 5th) summarizes as follows:

1. Tuberculosis of the kidney is a relatively common disease.
2. It usually begins in the kidney itself, descends through the ureter to the bladder, and ascends to the opposite kidney.
3. It is, therefore, for a long time a unilateral disease.
4. It is a progressive and destructive disease, not subject to improvement through medication, offering an unfavorable prognosis as to life and comfort, and subject to extension downward by the urinary tract and outward through the peri-renal lymphatics.
5. Diagnosis can be made through the symptoms of cystitis, with a low temperature, rapid pulse, dilatation of the heart, the detection of tubercle bacilli in the urine, tuberculosis of the bladder about the orifice of the ureter of the diseased kidney, pus or blood with tubercle bacilli and diminished normal constituents in the urine from the diseased kidney; normal urine in increased quantity from opposite kidney; sometimes tenderness, pain and tumor *in situ* of diseased kidney and ureter.
6. The indications in case of an absolute diagnosis of tuberculosis of one kidney and healthy opposite kidney are immediate removal of the diseased kidney *and its ureter;* in case of disease in both kidneys, no operation should be performed.
7. The competency of the healthy kidney should be proved by repeated catheterization of the ureters before nephrectomy, and the removal of all toxic elements from the blood should be secured by a liquid diet, irrigation of the colon and hydration of the whole system for some days before the removal of the kidney.
8. Lumbar, extra-peritoneal nephrectomy is the safer operation.
9. In women the removal of the ureter should be completed through the vagina.
10. Any remaining tuberculosis of the bladder should be treated locally by curetting or cauterization.
11. Catheterization of the ureter is not a dangerous procedure, and it may easily be accomplished in women with the simple cystoscope of Simon, Pawlik or Kelley, and in men with the more complicated instrument of Casper.

SURGERY.

IN CHARGE OF

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THE PREVENTION OF DEFORMITY IN FRACTURES OF THE EXTREMITIES.

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The deformity following broken bones is a frequent cause of litigation because the disability and unsightliness of the condition are readily apparent to the patient and his friends. For the same reason the surgeon is more often subject to unfavorable criticism than the physician, whose failure to do the best possible is often unknown to the public. So annoying is the sight of a deformed limb, and so great is the responsibility and anxiety assumed in taking professional care of a bad fracture, that some practitioners feel glad to have such cases fall into the hands of other physicians or receive treatment at hospitals.

Mistaken diagnosis is a common cause of deformity after fracture. It is necessary not only to know that a fracture exists, but also to be acquainted with the situation and general character of the lines of separation if the surgeon is to obviate deformity. Many physicians fail in this important part of the treatment because they neglect to compare the injured with the uninjured limb; because they have forgotten the anatomical outlines of the region and do not take the trouble to look at the dry bones of the part while studying the injury; or because they fail to examine the patient under general anesthesia, which prevents pain and relaxes the muscles.

I have seen fractures overlooked because these precautions have been omitted. This is perhaps most often the case in fractures near joints, where the normal mobility of the part and the irregular contour of the bones obscure the deformity and unnatural mobility due to the fracture. It has at times surprised me to find a peculiar curve in a bone of an injured limb existent also in the skeleton of the opposite side, proving that which I at first supposed was an abnormality due to fracture to be a natural configuration peculiar to the patient. Every doctor should have in his office the parts of a human skeleton. At times nothing so clearly

straightens out an obscure diagnosis as a moment's inspection of the bare bones. An articulated skeleton is not necessary and is rather expensive. The separated bones can be obtained through any medical student, at very little cost, from a dissecting-room. Finer and more costly preparations, but no better for study, can be bought from the surgical instrument makers.

General anesthesia is not employed as often as it should be in obscure injuries. A few inhalations of ether will relax the tightened muscles and permit the surgeon to freely manipulate the injured limb. The freedom from pain thus obtained is also desirable and prevents the unwise hurry which sometimes is the cause of erroneous treatment at the hands of skilful and careful medical men.

When it is impossible to make out the exact character of the fracture even under etherization, and there exists bony deformity which the surgeon is unable to correct, it may, in my opinion, be wise to make an aseptic incision down to the broken bone. This clears up the diagnosis, permits proper readjustment of the fragments, and only converts a closed fracture into an open one. With our present aseptic and antiseptic methods of operating the incision adds little risk to the case, and may be of incalculable value in overcoming displacement and preventing permanent deformity and disability. If the practitioner having charge of the case is not familiar with aseptic surgery he should seek the aid of a modern surgeon familiar with aseptic details. Suppuration must, of course, be avoided, and energetic relief measures must be promptly instituted if septic contamination occur. The wound, even if it look well superficially, must be opened and drained if septic process begin in it.

The Roentgen ray now gives us an almost perfect method of discovering the lines of fracture without incision. It is not always available, unfortunately. When the diagnosis of fracture has been made, complete reduction of the fragments should be promptly accomplished. This is usually not a difficult task if the medical man is acquainted with the normal outline of the bone, compares the injured limb with the normal one, and uses the skeleton of the arm or leg as a test of accuracy. The swelling which sometimes obliterates the outlines may often be greatly diminished by elevating the limbs for a few minutes, rubbing it with the hands from the fingers or toes towards the body, and encircling it for a few minutes with a rubber or flannel bandage firmly applied by spiral, or spiral and reverse turns. These manipulations urge the serum upwards toward the heart and lessen the distension of the subcutaneous cellular tissue. The bandage must not be allowed to remain on the limb for more than a few minutes lest it cause gangrene. It usually cannot be applied unless the patient be etherized, as it gives pain.

In the "greenstick" fractures of childhood much force may be demanded to bring the bent bone into its normal shape. This should usually be done, even if the fracture is thereby made complete. The exception I make to this rule is in greenstick fractures of the clavicle. Complete fractures of the clavicle are often difficult to keep in perfect apposition. I therefore frequently desist from applying force sufficient to cause complete separation of the fragments in little children with green-

stick fractures of this bone. I believe that the slight deformity, which is left after partial restitution of the normal outline by moderate force, is likely to be less conspicuous than that which may result if I completely separate the fragments and unavailingly try to keep the ends in perfect coaptation. If the child is very young the deviation in shape will probably diminish as the bone grows in length and thickness. If the child is nearly full-grown, I am much more apt to attempt complete reduction even if the bone does give way under the pressure of my fingers.

In impacted fractures considerable force is frequently needed to disentangle the interlocked ends. Unless this is accomplished, reduction is incomplete and deformity will persist. I think, at present, of but one instance in which it is unwise to attempt to separate the impacted fragments. Fractures of the neck of the femur in the aged have a characteristic indisposition to repair by bony union. Hence, the interlocked ends of the broken bone should not be pulled apart in the attempt to make a diagnosis or to obtain perfect restoration of the bony outline of the femoral neck. The deformity that will occur from the impaction is far less important than the disability certain to remain after treatment, if the fragments are separated and non-union occurs. If the bony entanglement is undisturbed, osseous or cartilaginous union becomes more probable. This advice to avoid meddlesome activity applies only to fractures of the femoral neck in the aged. Under other circumstances the impaction should be overcome and careful coaptation of the fragments sought.

The fractures which probably most often give rise to deformity is that of the lower end of the radius with backward displacement of the lower fragment. In this injury the lower fragment is very often impacted or caught upon the dorsal edge of the upper fragment. It requires force suddenly applied with all the power of the surgeon's hands to drive the lower fragment forward into its proper relation with the shaft of the bone. This is neglected, I fear, by a great majority of practitioners. Deformity much greater than necessary, and a protracted convalescence with pain and stiffness of the fingers, are the consequences of this error. Immediate and thorough reduction will usually result in a rapid cure, with little or no noticeable deformity. I have sometimes bent the lower end of the radius across my knee before I could disentangle the fragments and bring the lower one into place. This is not often necessary, unless the fracture is some days old when first subjected to treatment. Deformity, after unsuccessfully treated fractures, may be prevented or relieved by refracturing the callus which unites the fragments. This is occasionally necessary in instances where no treatment has been given. The bone is bent across the edge of a padded table or over the surgeon's knee, and after the band of union has been ruptured, is treated as a recent accidental fracture. This may be done with success at the expiration of even six months, since the seat of fracture remains weaker than the rest of the bone for a long time. There are various methods of applying the power of the surgeon who wishes to refracture such vicious union of a fracture; and the bone may be weakened or divided by drills, the osteotome or the saw; but these matters are foreign to the present discussion.

To obviate the occurrence of distortion, after reduction and coaptation have been accomplished, some sort of retention apparatus is required.

In fractures of the thigh I usually employ permanent traction, by means of a weight attached to the limb with adhesive plaster. This overcomes the tendency to overlapping. Any tendency to lateral displacement I antagonize by sand-bags laid along the sides of the thigh and legs, or by moulded splints. The moulded splints may be made of bookbinders' pasteboard, wet with water, and applied to the limb before becoming dry, or of gauze saturated with plaster of Paris water.

The best and probably the cheapest splints for fractures of the extremities are moulded gypsum splints. Plaster of Paris or gypsum is obtainable in every vicinity from storekeepers or druggists and costs but a few cents a pound. When added to water it forms a creamy mixture which, as everybody knows, soon "sets" on, hardens into the familiar plaster used for covering the inner walls of our houses. A few strips or layers of cheese-cloth or mosquito-netting, saturated with a moderately thick solution of plaster and laid upon the broken limb after the fracture has been set, soon stick together and hardens, forming a splint which actually fits every inequality of the limb's surface. The rigidity of the hardened gauze and plaster splints may be made as great as the surgeon pleases, by placing more layers of gauze saturated with the plaster mixture upon the outside of the first layers, before the plaster in them has "set." If there is a tendency for any fragment to become displaced the surgeon's finger pressed for a few minutes upon the outside of the splint, so as to hold the piece of bone in position, makes a permanent prominence on the inside of the splint, which acts as a substitute for his finger and does the same service as long as the splint is worn.

These moulded splints are held in place by a roller bandage, and are far better than any carved or manufactured splint ever made. They fit as a man's skin fits, and need no padding to prevent bed-sores. One splint may be applied on each side of the limb, or a single splint may be made so as to encircle the whole or nearly the whole of its circumference. Neighboring joints may be covered and, therefore, supported by the splint; or openings may be made in the splint where a wound needs frequent dressing or inspection.

A little common salt added to the plaster mixture, or the use of hot water for the mixture, hastens its setting; borax or cream of tartar makes it harden more slowly.

Such splints, when applied as a first dressing, should never be made to entirely encircle the limb, since the swelling incident to the fracture may make them too tight and cause much pain and even gangrene. If the plaster dressing is applied so as to encircle the limb, it should be cut open on one side its entire length before the surgeon leaves the patients.

To prevent late deformity the surgeon must insist that no strain be put upon the newly-formed callus until it is hard enough to bear the burden. This is particularly important in fractures of the femur and tibia, which in locomotion carry the entire weight of the patient's body. Oblique fractures of these bones are especially liable to bend at the seat of the union, if the patient walks on them too early, without proper artificial support. It often requires very little additional support, but that amount may be essential.—*Med. and Surg. Reporter.*

INGUINAL HERNIA—GANGRENE OF THE FOOT—CARCINOMA.

BY CHARLES MCBURNEY, M.D.,

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GENTLEMEN—This is the patient upon whom I operated a week ago for an inguinal hernia of about a year's standing. It was not easily retained, and the truss caused much irritation. The ring was very large, and the tissues were of the fatty infiltrated type, so that the operation was somewhat difficult. Notwithstanding this, you see we have obtained primary and solid union throughout the length of the wound. He hardly needs any dressing now, but he will be kept in bed for the full three weeks.

The old man upon whom I operated for gangrene of the left foot has died. He had sinile gangrene on the outer side of the foot, which was steadily advancing. It was due to atheroma and plugging of the vessels. I amputated above the knee, and he bore the operation very well, but could hardly be said to have fully rallied from it. He did not show any of the symptoms of grave shock, but he rapidly became delirious; his temperature began to rise on the second day, and continued to rise steadily. He died at the end of the fifth day with a temperature of 105° F., although the wound was found to be in an absolutely aseptic condition. A dissection of the leg showed throughout the length of the anterior and posterior tibial vessels a large number of atheromatous masses. I look upon such a result as due to a combination of conditions —premature old age and the effect of alcohol. Probably the alcoholic condition had as much as anything else to do with the fatal termination in this instance.

To-day I have to operate upon two cases, both of them illustrating a similar disease in different localities of the body, and both of them coming under the general head of carcinoma. They are both to be treated on similar surgical principles. One is a carcinoma of the breast, and the other an epithelioma of the lip. Our first effort will be to remove the disease locally and absolutely. This step will be carried out regardless of the deformity produced, or the damage to the parts about the seat of disease, although we shall endeavor to restore the parts as nearly as possible to their normal condition. I mean by this that in the removal of malignant disease one should not be guided by the position, appearance or size of the scar, but the prime object should be the complete removal of the disease. One should start out with that principle firmly rooted in the mind, or else the future of the patient will be sacrificed to present comfort or ease. In all these cases of malignant disease we should endeavor to remove all chance of recurrence, either in the immediate neighborhood of the original disease, or in distant parts. To do this we must, of course, remove the channels through which such a recurrence is likely to take place.

The first patient is thirty-two years of age, and she has a carcinoma in the outer quadrant of the right breast, which does not involve the skin.

She asserts that the tumor has been present only three weeks, but this means that she first noticed it at that time, for she readily acknowledges that when she first discovered it it was of the same size as now. The tumor is very hard, but its attachments are such as to make the condition a very favorable one for operation. In the upper part of the axilla, and on its thoracic aspect, are several glands, which are decidedly, though not greatly, enlarged, and these are tender on pressure. So far as I can recollect, I have never found a case of carcinoma of the breast where the glands were not diseased. By this I do not mean that I have always been able to feel these glands before the operation, but that I have always been able to find such enlarged and infected glands at the time of the operation. I would, therefore, lay down as a positive rule that, when carcinoma exists in the breast, the axillary glands and surrounding tissues should be carefully dissected away. This doctrine, of course, almost all experienced surgeons would subscribe to, but it is a point sometimes neglected by those operating occasionally and having less experience with these cases. The longer and more carefully we have followed our cases and watched the results of operations on malignant disease of the breast, the more convinced we have become of the necessity of carrying out the most radical operative methods if we would prevent or postpone recurrence for any considerable time. We have recently learned that our operations must be exceedingly extensive. The operation which I shall do is one of that kind. It was first brought forward by Dr. Halsted, of Baltimore, and consists in the removal of the tumor, the breast, the skin overlying it, the pectoralis major and minor muscles, and all the contents of the axilla. There are several reasons for doing such an extensive operation. In the first place, we know by microscopical examination that the lymphatic ducts and glands are very frequently found in the adjacent tissues infected with the malignant disease. By the method referred to, all of the parts in which the disease is likely to be found can be easily and thoroughly removed. One who has not followed these cases would naturally suppose that the removal of these important muslces must have a very disastrous effect on the movements of the arm but this is not the case. On the contrary, the patients operated upon in this radical way are usually able to move the arm much more quickly and extensively than cases operated upon by the older method. Now, what are the results of the method? In my own experience, they have been extremely gratifying, for a very large number of these patients are still entirely free from any recurrence—a result entirely different from that formerly observed.

Any incision which runs directly across the axilla is to be deprecated, for cicatrical bands will be formed, and these are likely to interfere with the motions of the arm. A very good way is to carry the incision upward toward the shoulder in such a way that when the flaps are coaptated the line of incision will come to one side of the axilla. An incision made downward from the clavicle simplifies the operation, but it has the disadvantage of giving a line of cicatrical tissue which is particularly disfiguring, and which is also so situated as to interfere with the movements of the arm and the comfort of the patient. Such an incision, therefore,

should be avoided, for, in certain walks of life at least, the avoidance of *unnecessary* disfigurement is of great importance. I should consider that this operation had been sufficiently radical in the present case if the clavicular portion of the pectoralis major were left. Having dissected away a thin flap and exposed the posterior edge of the axilla, we shall sever the clavicular portion of this muscle, and then pass below the muscle into the axilla. We next divide the insertion of the muscle into the humerus. Having gone down into the axilla and exposed its contents fully, we now begin their removal, starting at the upper portion. I have taken care to tie the numerous vessels stretching across the axilla, otherwise there would have been troublesome hemorrhage. By proceeding with the dissection slowly and systematically, I have at last removed the tumor, the breast and the contents of the axilla all in one mass. Having checked all bleeding, the large resulting wound is irrigated with saline solution, and then the flaps are brought together as well as circumstances will allow. I find that in this case it is possible to unite them, so that the prospect of securing primary union is good.

The next case is one of epithelioma of the lower lip, occurring in an old person. There is not much infiltration, yet it is very clearly defined epithelioma. At first, you might think it was quite circumscribed, and careful external palpation of the submaxillary region shows no enlarged glands. If, however, you put one finger in the mouth, and press against the examining finger outside, you will distinctly feel the enlarged and infected glands. Of course, it would be treating this case very superficially indeed if we removed the disease from the lip and left these infected glands in the submaxillary region. The removal of these secondary masses should be the rule, and it should be done at the same time as the extirpation of the epithelioma, unless the patient's condition will not admit of this, in which case it should be done as soon as possible afterward. In elderly patients, one is justified in some cases in not touching the submaxillary region if the growth be sharply circumscribed, but this is decidedly exceptional, and is a matter to be determined by individual judgment. When the epithelioma is in the lower lip, and is not very large, it may be easily removed by a small V-shaped incision. It is also apparent that if the growth be large, the V-shaped incision would include nearly the whole lower lip. In this way, the mouth would be converted, after the operation, into a small, round hole. The older surgeons were content with such a result.

In many of our text-books on surgery the operation I am about to describe is hardly mentioned, although it is an extremely important one—indeed, I am of the opinion that it is the best that has been suggested for these cases. It was devised by an old French surgeon named Malgaigne, and is known by his name. You begin by taking out a square block below the disease; then starting at one angle of the mouth, a straight horizontal incision is made out on the cheek, and a similar incision, parallel to this, is carried from the lower edge of the "block" that has been cat oat. Two parallel incisions are made in the same manner on the cheek of the opposite side. These square lateral flaps are dissected away freely, so that they will slide together easily. But a raw, cicatrical edge

would not make a comfortable or useful lower lip. To obviate this, the first, or upper lateral incisions, do not pass all the way through, but, instead, the mucous membrane is divided at a higher level. This mucous membrane is subsequently doubled down over the raw edge of the flaps. To avoid the wrinkling that otherwise occurs on bringing together these flaps, a small triangle of skin only is taken out at the hinge of each lateral flap. If the lesion exists only on one side, the double operation, as just described, is not required. It is the single operation which will be required in the present case. The double operation of Malgaigne appears to be a very extensive and severe one, yet the fact is that these patients uniformly do extremely well. I do not recall having seen any sloughing after this operation. As our patient is advanced in years, and is not very strong, I think it will be better to operate upon the lip to-day, and then, after ten days, operate upon the glands in the submaxillary region.—*International Jour. of Surgery.*

SURGICAL ITEMS.

If we suspect a woman has cancer, is it just and right to conceal the suspicion in our own bosoms when to her it is a matter of life or death? Is it not our bounden duty to use every means in our power to decide the question, laying the facts before some member of her family, or, if need be, before the woman herself? I fear that we go too far in the concealment of danger from the victim.—*D. E. Walker.*

The diagnosis of malignant disease of the tonsil must be made early in the course of the malady if surgical treatment is to be of any avail. The presence of a recently-developed unilateral non-inflammatory new formation in the tonsil of an adult past middle life suggests the probability of malignant disease; and if the tumor is hard, dense, and of rapid growth, the presumption is strengthened.—*D. Newman.*

Some physicians say that they cannot palpate a normal appendix; other physicians fear that no one can do it. Gynecologists, who are in the habit of palpating ureters and Fallopian tubes, find it an easy matter to palpate normal appendices after they have adopted a correct method of procedure. Some surgeons palpate most of their interval appendices in the presence of an audience, and state their findings before operating. It is all a question of acquired skill and method.—*R. T. Morris.*

I believe in early operation; the complete removal of tumor and diseased mammary gland, keeping wide of the skin involved, pectoralis major and minor muscles, and glands and fat in the axillary and Mohrenheim's spaces. The closure of the wound should be with silkworm gut, with button tension sutures if necessary, omitting the use of drainage materials, and Thiersch's method of skin grafting, where a granulating surface remains owing to the extensive removal of the skin, should be employed.—*J. W. Keefe.*

MEDICINE.

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THE PRESENT STATUS OF THE SERUM TREATMENT OF DIPHTHERIA.

As there have been over one million injections of antitoxin made up to this time, some proper conclusions as to its use and results are being arrived at. It has reached such a stage that an assertion made many months ago, "that it is criminal to treat a case of diphtheria in its early stage without antitoxin," can be justly repeated with increased vehemence.

Such investigations have been made as to render positive assertions as to its efficacy possible. The fight between the exponents and opponents of the serum treatment of diphtheria was at one time too vindictive and too personal to be of any scientific advantage; as the hot-heads have cooled down enough to analyze facts, they have come to realize the truthfulness of the saying of Virchow early in the fight. All the arguments of the opposition have been met and silenced, except a very few; and even those who advanced such arguments are now, in pool-room vernacular, "hedging."

We cannot yet claim it as a specific; yet Jacobi, who at first opposed the use of the serum, says in a recent article: "It will be entitled to be claimed as a specific, though it has not the power to cure every case of diphtheria, any more than quinine cures every case of malaria, or mercury of syphilis." Many say, if injected the first day of the disease, no case need die.

My experience with it has been exceedingly favorable. Of the many cases in which I have used it there have been exceedingly few deaths, and my dread of diphtheria has decreased to such proportion as to render me very much less worried when called to see a case. It does not do away with other treatment, as many suppose, but does away with so much of it as to render it almost *nil*, not only as to quantity but as to perseverance and severity. A case seen in the last few days will illustrate what I mean. All cases do not end so, but it is more the rule than the exception.

J., a girl five years old, had had diphtheria, so far as known, two days: she was quite hoarse; pulse weak and irregular; a typical membrane was on the palate and pharynx; it was a typical case of diphtheria of the pharynx, soft palate, and larynx; a case in which, without antitoxin, I

would have immediately advised intubation. I gave her 4 c.c., or 1,000 units, of serum, injecting it into the outer part of the left thigh. I first washed the part well with alcohol, and used ethyl chloride as a local anæsthetic; with this the injection gave little or no pain. A five-per-cent. solution of carbolic acid can be used instead of the alcohol; it is not only a good cleanser, but also a local anæsthetic. My needles I wash in the same solution. After the injection no pressure was made to distribute the serum. The part was again bathed with alcohol, and a small piece of cotton with alcohol on it placed over the wound, and held in place by an adhesive strip. No reaction whatever followed. All membrane in sight was gone the next day; pulse was good, temperature about normal; patient with a good appetite, and voice nearly clear in three days. As I stated before, this is not an exceptional case. The little patient made a good recovery.

If the general practitioner who usually sees these cases first will, early in the disease, make or have made a serum injection, the above history will be much more common than it is now. Do not wait for a bacteriological investigation. The serum, if fresh and pure, and if properly injected, is harmless; and a membrane in a throat with no history of trauma means, in ninety-five cases in a hundred, diphtheria—so why wait? As to the objections urged against the serum treatment of diphtheria, all of them have been about swept away by the investigations and conclusions of 1896. A few deaths have been attributed to its use, but not proven. Five, I believe, in over one million of injections, and not one which could be proven beyond any doubt as the result of the serum. It is true, death might not have occurred in three of the cases had not the injection been made. Even admitting that five or twice five deaths had been the direct result of the serum injection, who of us would not take such a chance? Some of these cases were very sad indeed, cases in which the injections were made for immunity; this, I think, is unnecessary in a majority of cases, as there are no better immune agents than fresh air and sunlight.

Still, reports as to immunizing are very encouraging, as will be seen from the following, which is from Dr. Biggs' last report, *Medical News* of New York, December 26, 1896: Number of cases, 17,516. Of these there were 109 attacked with mild diphtheria in thirty days, and 1 fatal. After thirty days there were 20 mild, and 1 fatal; or in 17,516 cases there were 129 mild cases, and 2 fatal; which, I think, is a great result. The other statistics of Dr. Biggs seem to me to be unanswerable. For instance, in 79,085 cases treated by antitoxin in different parts of the world the death-rate was about 16 per cent.; in cases treated without antitoxin the death-rate was between 30 and 40 per cent.. Or, take another series of cases: In a total of 2,930 cases treated with antitoxin 436 died, giving a mortality of 14.9 per cent., while of 3,625 cases treated without antitoxin at the same time, or during intervals of forced interruption (owing to lack of antitoxin) 1,455 died—a mortality of 40 per cent. Virchow, who is frequently quoted, and who at first was opposed to the use of antitoxin, said: "All theoretical considerations must give way to the brute force of the figures; and I consider it the duty of every physician to use a remedy giving such clinical results."

Dr. Hermann M. Biggs says, further, in his more recent article, that "Baginsky, in commenting on this circumstance, says: 'It is all the more remarkable, as the ratio of mortality of those treated with the serum, before and after the period of interruption, varied within very small limits. If one will permit figures to speak at all, there has scarcely been made on human beings a more demonstrative test of the curative power of a therapeutic agent. It was an experiment forced upon us; but it proved to us how terrible was the form of disease which we were treating, and how numerous would have been the victims without the use of the healing serum.'"

Prof. Virchow again reiterated his opinion in a report which was read on the antitoxin treatment of diphtheria in the same hospital, on December 25, 1895, when he said that from April to November of that year 303 cases out of 335 treated had recovered; the mortality, which had formerly been 43 per cent., having decreased to 9.5 per cent.

Vucetig reports two groups of cases of 30 each, one treated with antitoxin and the other with Loeffler's solution; the antitoxin cases gave a mortality of 6.6 per cent., the others a mortality of 20 per cent.

According to the official records of the Austrian Health Department, there were treated during the month of February (1896) in all Austria 1,128 cases with antitoxin, with a mortality of 13.2 per cent, whereas 1,849 cases, which were treated without antitoxin at the same time, gave a mortality of 38 per cent.

Rauchfuss reports 34 cases treated in hospital with a mortality of 21 per cent., and 30 control cases treated at the same time without antitoxin with a mortality of 52 per cent.

Von Engel, in Bohemia, reports 39 cases treated with antitoxin with a mortality of 25.5 per cent., and 62 cases treated at the same time without antitoxin with a mortality of 50 per cent. The antitoxin cases in these reports are said to have been unusually severe, and therefore taken as a test of the new remedy.

Heubner reports 299 cases treated with antitoxin in the Hospital Charite in Berlin with a mortality of 16.7 per cent., and 249 cases treated in the Bethany Hospital, at the same time under the same conditions of age, season, etc, without antitoxin, with a mortality of 43 per cent.

Blumenfeld reports 229 cases treated in private practice with antitoxin with a mortality of 8.7 per cent., and 48 cases not treated with antitoxin, because they were considered to be *too mild;* the mortality among the "mild cases" was 23.6 per cent., as against 8.7 per cent. among the apparently severer cases treated with antitoxin.

Many examples of the same kind might be cited from the published reports, fuller details of which will be found in the Bulletin of the Health Department (of New York), but from these it may be seen that the antitoxin treatment has stood the test of comparison with other approved methods of treatment whenever the contrast has been decidedly drawn.

The date of the administration of the antitoxin is of the greatest importance; this is really the obstacle that is the most difficult to overcome in this treatment of diphtheria. All who use it know the several reasons for it, which are not necessary to give here; the cost is but little, and

any doctor with a clean hypodermic syringe should be able to use the remedy. So the objections which have heretofore been advanced against the use of diphtheria antitoxin are being, as I stated before, rapidly dissipated.

The amount of membrane present does not indicate the amount of sepsis to be expected. I hear gentlemen reporting cases in which there was membrane covering an immense space, and yet the child got well. So long as this does not act in a mechanical way to obstruct respiration it is not necessarily of great prognostic importance, as I have frequently seen such cases get well, while others died promptly with an exceedingly small amount of membrane. Its location and the activity of the absorbents, with the power of resistance of the patient, have more to do with the result. Other toxines, the result of other bacilli than that of Loeffler, are the cause of the bad results in many cases of diphtheria, whether antitoxin is used or not. So, when antitoxin fails, it is not so much the failure of the remedy as it is that of the ignorance or carelessness of the attending physician in not making the injection before other toxines are produced. We all see such cases, not only of our brother doctor but of our own, and in making these statements I include myself with the derelict. Many of these cases, in small children especially, have membrane in undiscoverable localities. In such cases the heart and general condition of our patient can be our only guide.

In a certain class of cases—I refer to those in which croup is a prominent element—even with no membrane in sight, with our present knowledge of its pathology, there should be no hesitancy in using the serum, and I believe one who does not use it is guilty of great negligence. We can have membrane on the cords which it might be difficult to make out, although the patient will permit the examination; and it must be remembered that membrane in this location, if it does not produce mechanical obstruction, may give little or no constitutional disturbance, as its products are not absorbed, on account of the presence of a normal basement membrane in the mucous lining. To the serum in these cases calomel by fumigation can profitably be added. These cases in which intubation and tracheotomy had to be performed formerly, and those in which the conjunctivæ are involved, cases in which, before antitoxin was used, a majority of the eyes were lost, demonstrate to us the wonderful and beneficent effect of antitoxin in diphtheria.

In one hospital in New York the number of cases of broncho-pneumonia occurring after the use of antitoxin was urged against the use of the remedy. As soon as the rooms were kept at a temperature of 70° there were no more cases of broncho-pneumonia which had not developed before admission. The serum does not affect the blood unfavorably; the eruptions and joint involvements it occasionally produces amount to nothing; it has been demonstrated beyond doubt that its use does not increase the danger of any kidney involvement nor after-paralysis.

In all the cases in which I have used antitoxin I have never seen an eruption or a joint involvement; have never had but one to die of kidney complication; have seen but little paralysis; have seen the membrane disappear in half the usual time; have usually seen the temperature fall

promptly, and the child's appetite improve very much; the cheerfulness of the patient improves wonderfully—all this with antitoxine alone, or with little or no other treatment, either local or general. This is not in all cases. If the child receives the injection late, cell-tissue destroyed cannot be restored. Bearing on this point is a report on a recent epidemic in Chicago. Of sixty-one children injected the first day of the disease, all got well; of one hundred and eighty-seven the second day, three died; of three hundred and seventy-two the third day, ten died; of one hundred and nine the fourth day, seventeen died. From this the importance of an early injection can be readily seen. A fair criticism of any remedy can result in nothing but good. Professor Soltman gives us the following quotation from a German poet:

> "The best critics in the world are they
> Who, along with that which they gainsay,
> Suggest another and a better way."

These three lines answer, I think, all criticism that have been made on the serum treatment of diphtheria. It is not a cure-all. The dose, and some few other points of importance, in my opinion, have not yet been definitely settled. Even accepting the statistics given as "double-edged," yet, as Soltman says, "Suggest another and a better way." I believe the serum treatment of diphtheria is the best that has yet been offered; that, in the full sense of the word, it is not a specific, yet, if used in the first or second days of the disease, in the proper dose (which has not yet been definitely settled), it is as much a specific as quinine in malaria, or potassium iodide and mercury in syphilis.—*Dr. William Cheatham (Louisville), in Am. Pract. and News.*

A NOTE ON PICRIC ACID IN THE TREATMENT OF SUPERFICIAL BURNS AND SCALDS.

The treatment of superficial burns and scalds has long seemed to be most unsatisfactory, for these injuries are attended with an unnecessary amount of inflammation, while the act of renewing the dressings is unduly painful. From time to time I have tried various methods of treatment, and I have come to the conclusion that the picric acid treatment is by far the simplest and the most satisfactory. The method is well known in France, where it has been extensively used by Professor Thiery, while Dr. Filleul and Dr. Papazoglou have done their best to disseminate a knowledge of its value. I do not therefore claim the least merit for myself, but I find that so few practitioners know of it that it is perhaps worth while to draw attention to it in England.

The solution of picric acid is made by dissolving a dram and a half of picric acid in three ounces of alcohol, which is then diluted with two pints of distilled water; or, more accurately, picric acid, 5 g.; alcohol, 80 g.—dissolve; add 1,000 g. of distilled water. This is a saturated solution of picric acid.

The clothing over the injured part should be gently removed, and the

burnt or scalded portion should be cleaned as thoroughly as possible with a piece of absorbent cotton wool soaked in the lotion. Blisters should be pricked and the serum should be allowed to escape, care being taken not to destroy the epithelial surfaces. Strips of sterilized gauze are then soaked in the solution of picric acid, and are so applied as to cover the whole of the injured surface. A thin layer of absorbent cotton wool is put over the gauze, and the dressing is kept in place by a light linen bandage. The moist dressing soon dries, and it may be left in place for three or four days. It must then be changed, the gauze being thoroughly well moistened with the picric acid solution, for it adheres very closely to the skin. The second dressing is applied in exactly the same manner as the first, and it may be left on for a week.

The great advantages of this method of treatment are: First, that the picric acid seems to deaden the sense of pain, and, secondly, that it limits the tendency to suppuration, for it coagulates the albuminous exudations, and healing takes place under a scab consisting of epithelial cells hardened by picric acid. A smooth and supple cicatrix remains, which is as much superior to the ordinary scar from a burn as our present surgical scar is superior to that obtained by our predecessors, who allowed their wounds to granulate.

I have used this method for more than a year in a hospital practice, both among out-patients and in-patients, and I have every reason to be thoroughly satisfied with the results I have obtained. It is not an ideal method, for it stains the clothes and discolors the hands of the surgeon, but it is a great improvement upon anything else I know of.—Dr. D'Arcy Power, in *British Medical Journal.*

DIET RULES FOR PATIENTS WITH WEAK HEARTS.

1. There must never be less than five hours between one meal and another.
2. No solid food must ever be taken between meals.
3. All persons suffering from weak heart should take their principal meal in the middle of the day.
4. All those with weak hearts should take their meals as dry as possible.—Dr. G. W. Balfour, in "The Senile Heart."

FORMALIN AN APPROXIMATE SPECIFIC FOR RINGWORM.—An interesting editorial note has appeared in *Guy's Hospital Gazette* calling attention to a recent paper by Mr. Alfred Salter, on the treatment of ringworm by formic aldehyde, or formalin. This treatment is now so well known in Guy's and has had such a conspicuous success that it should be part of the ordinary practice of every old Guy's man. There seems no doubt that it is the almost specific treatment for the disease, especially in obstinate and hitherto incurable cases. And yet this discovery arose from the annoying fact that the inventor's cultivations of the ringworm microbe were all killed one night through his having left the stopper out of the formalin bottle.—*Boston Medical and Surgical Journal.*

OBSTETRICS AND GYNAECOLOGY.

IN CHARGE OF

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VAGINAL HYSTERECTOMY FOR BILATERAL SUPPURATIVE PROCESSES OF THE UTERINE ADNEXA.

In the proceedings of the Tri-State Medical Society of Alabama, Georgia and Tennessee, the fifth annual meeting of which was held at Chattanooga, Tenn., beginning on October 13th, 1896, as published in the Nashville *Journal of Medicine and Surgery* for January, we find a report of a valuable paper on this subject by Dr. W. D. Haggard, Jr. He said that the reason for removing the uterus where the adnexa were hopelessly diseased, requiring removal, is founded on the following facts:

"A large number of cases where the tubes and ovaries were removed were not perfectly cured, the persistent symptom was pain; hysterectomy cured these cases. There were painful malpositions, a more stormy and protracted menopause. There was danger of adhesions to hollow viscera and subsequent obstruction; it takes no longer to do a total hysterectomy than curetting or ventro-fixation after double ovariotomy; the mortality is lower; the uterus is a part of the disease in pyogenic infection; hence, hysterectomy was not the removal of a healthy, intact organ. The mortality in five hospitals was 18.5 per cent. in removal for tubes and ovaries alone for pus. Vaginal hysterectomy in 724 cases, 4.6 per cent.; Jacob's 403 cases, 2.9 per cent. The supreme triumph of the vaginal operation was that it afforded the means of a thorough exploration essential to conservative procedure. The vaginal method preferable because: 1. The preliminary step, vaginal section, allows thorough exploration and conservative treatment with a minimum of risk. 2. The vagina is the natural approach and logical avenue for drainage of the pelvis. 3. It is immune from the unpleasant sequelæ of laparotomy, possibly of hernia, stitch abscess, infected ligature and sinus and the abdominal supporter. 4. Less immediate shock; convalescence is smoother and shorter. 5. No exposure or handling of intestines. 6. Less danger of peritoneal contamination. 7. Mortality is lower. 8. Invades only the diseased area, and leaves undisturbed the protecting mass of adhesions. Quoting Segund: 'I have arrived at the conviction that whatever can be enucleated through the abdominal wall can also be removed through the vagina, and whatever it is impossible to enucleat through the vagina cannot be removed by the abdominal method, except at the price of procedures incomparably

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...more severe and more laborious. Vaginal hysterectomy, stigmatized ...surgery, has for its motto, 'Do what you see, and see what you do.' ...steps may be summarized as follows, but may be varied: 1. Preliminary curettage. 2. Completion of incision around cervix prolonged ...to transverse in the lateral fornices. 3. Freeing cervix anteriorly from the bladder and ureters. 4. Application of clamps to base of broad ligaments containing the uterine arteries. 5. Amputation of cervix. 6. Median section of the uterus. 7. Enucleation of each appendage separately. 8. Application of clamps to upper portion of broad ligaments containing ovarian arteries. 9. Excision of each lateral half of uterus with diseased mass."

THE TREATMENT OF PUS IN THE PELVIS.

Dr. W. B. Davis. at the same session, presented a paper on this subject. He said that the French surgeons reported their inability to remove the appendages in some cases of vaginal hysterectomy for pus in the pelvis, but that the patients recovered, which demonstrated that drainage would cure many cases of pus in the tubes and ovaries. Vaginal incision for pus in the pelvis, not confined to the tubes, had been practised for a long time with good results. A considerable number of such cases required no further surgery. He claimed that large pus tubes and ovarian abscesses could be drained through the vagina with permanent recovery, in a good proportion of cases, where vaginal hysterectomy is recommended so highly by the French surgeons. If not relieved, the patient's condition would be made better, and later on an abdominal operation could be done, and the diseased appendages removed. It is very exceptional that the uterus will have to be extirpated.

Dr. J. A. Goggans opened the discussion on these two papers by saying that he followed the practice of Dr. Davis. He thought we should be very conservative, and seriously consider harmful sequelæ of complete ablation of genital organs in young women. Every appropriate treatment was justifiable when we consider the great variety of pathological conditions. He recognized three methods of treating pus in the pelvis: 1st, Simple incisions with drainage through the vagina or abdomen. 2nd, Opening abscess by laparotomy. 3rd, Opening abscess per vaginam. Each applicable to suitable cases. He related a case of laparotomy drained finally through the vagina followed by irrigations, recovery; also, one of large pelvic abscess, which ruptured during examination. An immediate laparotomy saved the patient.

Dr. Haggard said that conservative methods should be exhausted. In a recent case he had opened pus tubes, and did not remove the uterus. In chronic cases the uterus becomes diseased, and will cause untold misery. Here was the only difference between Drs. Davis and Goggans and himself. The cases which rupture per rectum or vagina and undergo spontaneous cure occur in country districts, and are not cases of gonorrhea.

Dr. Davis said that Dr. Haggard was sustained by many eminent men in his position. When these organs are removed, there is a condition of the nervous system which causes a little suffering to be exaggerated to

an excruciating pain. Gonorrhea is not the dangerous disease some would have us believe. He thought a large proportion of these cases could be cured without removing the uterus, which is an important organ after removal of ovaries and tubes. A woman is thus more natural, and the vagina does not shrivel up.

PUERPERAL ECLAMPSIA; ITS ETIOLOGY AND TREATMENT.

Abstract of a paper by Dr. William Warren Potter, of Buffalo, read at the ninety-first annual meeting of the Medical Society of the State of New York, Albany, January 26th, 1897:

He said, *inter alia*, that we seem to have arrived at the renaissance of eclamptic literature; that, while the subject is being discussed in magazine articles and societies, it would not answer for this society to keep silent.

Though the pathogenesis of eclampsia is still unsettled, we are certain that it is a condition *sui generis*, pertaining only to the puerperal state, and that to describe, as formerly, three varieties—hysterical, epileptic and apoplectic—is erroneous as to pathology and causation as well as misleading in treatment.

The kidney plays an important office in the economy of the eclamptic. If it fails to eliminate toxins, symptoms are promptly presented in the pregnant woman. Renal insufficiency is a usual accompaniment of the eclamptic state. Over-production of toxins and under-elimination by the kidney is a short route to an eclamptic seizure. However, many women with albuminuria escape eclampsia, and many eclamptics fail to exhibit albuminous urine.

The microbic theory of eclampsia has not yet been demonstrated. The toxemic theory, in the present state of our knowledge, furnishes the best working hypothesis for prevention or cure.

Treatment should be classified into (*a*) preventive and (*b*) curative. The preventive treatment should be sub-divided into medicinal and hygienic; and the curative into medicinal and obstetric. A qualitative and quantitative analysis of the urine must be made at the outset. If there is defective elimination something must be done speedily to correct a faulty relationship between nutrition and excretion. One of the surest ways to control progressive toxemia is to place the woman upon an exclusive milk diet. This will also serve to flush the kidneys, and thus favor elimination. Distilled water is one of the best diuretics; it increases activity and supplies material—two important elements. In the pre-eclamptic state, when there is a full pulse with tendency to cyanosis, one good full bleeding may be permissible, but its repetition should be regarded with suspicion. If there is high arterial tension—vasomoter spasm—glonoin in full doses is valuable.

When eclampsia is fully established, the first indication is to control the convulsions. Full chloroform anæsthesia may serve a good purpose. If the convulsions are not promptly controlled, the uterus must be speedily emptied. This constitutes the most important method of dealing

with eclampsia. Two lives are at stake, and by addressing ourselves assiduously to speedy delivery of the fœtus we contribute in the largest manner to the conservation of both.

Rapid dilatation, first with steel dilators, if need be, then with manual stretching of the os and cervix, followed by the forceps, is the nearest approach to idealism. Only rarely can the deep incision of Duhrssen be required. Cæsarean section should be reserved for extreme complications, as deformed pelvis, or to preserve the fœtus when the mother's condition is hopeless. Veratrum viride is dangerous, uncertain and deceptive in action.

In eclampsia of pregnancy, *i. e.*, prior to term, the aseptic bougie, introduced to the fundus and coiled within the vagina, may be employed to induce labor. Finally, to promote the elimination of toxic material, diuresis, catharsis and diaphoresis should not be forgotten; neither should the hot-air bath nor the hot pack be overlooked.

TURKISH HOSPITAL SERVICE ON THE GREEK FRONTIER.—That the Turkish soldier is a formidable fighter has been long known, but it will be a matter of surprise to most people to learn from the military correspondent of the *Times* that Turkish organization has made rapid strides during the last few years, especially in the matter of military railways and hospitals. Writing from Salonika with Edhem Pasha's force, the correspondent refers to the creditable state of the medical service. He says: "The main hospital here is as good as many in Europe, and has a large reserve supply of beds and medicines; the doctors are properly trained and the ambulances well-equipped and officered. A very reasonable order has just relegated all the Christian military surgeons to the depots, while the fighting line is to be supplied with Mahommedans only. A little dysentery is the only disease from which the entire army of occupation, more than half of which has been brought from the distant provinces of Anatolia, has suffered.

NON-ESSENTIAL EXPERIENCE OF EXPERT.—While there is no apparent connection between the experience acquired by a physician in a certain capacity and his qualification as an expert in a given case, the appellate term of the Supreme Court of New York holds, in Brown *v.* Third Ave. Co., Feb. 26th, 1897, that it is not error to exclude questions relative to such experience, when he is being qualified as a medical expert in such case. To illustrate, the Court holds that it is not error to rule out questions regarding the duties of the witness as a member of a board of health where there is nothing to show that the duties of a member of a board of health would give the testimony of the witness greater value in the case.

A pleasantry recorded of Ralph Waldo Emerson is a story he told of a friend who carried a horse-chestnut as a talisman or protection against rheumatism. "He has never had it since he began to carry it; and, indeed, it appears to have had a retrospective operation, for he never had it before."

NERVOUS DISEASES AND ELECTRO-THERAPEUTICS.

IN CHARGE OF
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AN UNCOMMON CASE OF OCCUPATION NEUROSIS.

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Thanks are due to Prof. Mills for the privilege of making a clinical report of the following unique patient of the clinic for Nervous Diseases of the Philadelphia Polyclinic:

A. D., a white, male, American, æt. 52 years, employed for twenty-one years as a brick sorter. He has never been a user of tobacco or alcohol, and his history, family and personal, is excellent. In 1894, after an idleness of some weeks, he resumed his occupation. The first day's work caused great discomfort in the interosseous tissues of the right hand, which discomfort later became pain and involved the whole hand, wrist and forearm of that side, as well as the left hand and arm. Labor increased the pain, and enforced rest for five months was the result. Under like circumstances he suffered with apparently the same condition in 1895, the trouble persisting for a few weeks. In July, 1896, a third very mild attack followed a spell of cholera morbus, involved both hands alike and disappeared in two weeks' time. The fourth, present, appearance of this disability was in December, 1896. Two weeks of idleness were followed by the new employment of brick-setter. A few hours of this work sufficed to cause pain and disablement of the right hand. The right wrist, forearm and arm, the left hand and wrist were involved in a very short time. A sensation as of a tight band about the right biceps developed and persisted until the next day. The muscles about the right shoulder were somewhat paretic, the whole arm felt as if bruised. Some swelling was noticed at first, but soon disappeared. Improvement has been very slight. The physical condition of the patient at the present time is good. The arms are of good size; there are no visible signs of the trouble. There is no pain on squeezing or manipulating the hands, fingers or arms; no swelling, no paralysis or paresis, no changes in sensibility to pain, touch, temperature or position; no ataxia; reflexes are normal; electrical reactions unchanged. Attempts to perform such movements as are made in his occupation cause pain and muscular spasm in the hands, wrists and forearms, so that he quickly releases the object with which he is experimenting.

The history of the patient, the knowledge of the work entailed by his

occupation, the symptoms presented, the absence of changes in motion and sensation incline me to the belief that an occupation neurosis is the correct diagnosis. The case is, however, a very uncommon one, rare, in that both arms were affected simultaneously, and in the number of attacks which have been recovered from. Some hysterical element seems to be observed in the case, but it is hardly possible to credit that disease with the whole condition.

The prognosis is extremely doubtful. The man will certainly do better in another occupation, therefore such has been advised. Treatment so far has been general; strychnine, cod-liver oil, preparations of malt, and of iron and manganese peptonates: with galvanism, systematic slow gymnastic movements and massage of the parts affected.

THE INFLUENCE OF TOBACCO ON NERVOUS AND MENTAL DISORDERS.

N. Buccelli *Rivista de Patalogia*, I Fasc., 10 Oct., 1896, has studied the effects of tobacco, used either in smoking or chewing, on two hundred subjects of vaious forms of nervous and mental disease. He finds that in many vesanies there is a decided repugnance to tobacco, though formerly used, while other excitants, like alcohol, are readily taken. When taken, however, it produced, in small doses, phenomena of intolerance, such as vertigoes, cardiac neuroses, precordial pain, neuralgia of the cardiac plexus, nausea, vasomotor disturbances, and temporary marked mental confusion. These phenomena were observed most prominently in convalescents from acute attacks, especially in those who have been addicted to alcohol.

These were the general symptoms observed. Taking up special phenomena in order, psychic manifestations were not very largely observed. In some paretics it seemed to exaggerate the euphoria, and the same occurred in some paranoiacs in the megalomaniac phase. In hypochondriac delusions, on the other hand, tobacco accented the delirious ideas.

In many neurasthenics tobacco-using caused an increase in the urine, with corresponding decrease of its density. In three cases there was a glycosurie, all old senile dements; marked phosphaturia was once observed in a tobacco chewer, but generally the phosphates were little altered. Peptonuria and acetonuria, already existing, were exaggerated by the use of tobacco in some cases of paresis and saturnism.

As regards motor disturbances, the abuse of tobacco seemed to often aggravate epileptic attacks, and in two choreics the involuntary movements were greatly increased. In neurapathic subjects it often produced a rapid tremor of the hands, lasting for some hours after use of the poison. When tremor existed before, it was exaggerated more in the degree than in the rapidity. This effect was observed in the order of frequency, in paralysis, Parkinson's disease, epilepsy, alcoholism, hysteria, and convalescence from acute disorders. In epileptics the increase was often in inverse proportion to the age of the patient.

The sensory disorders from the use of tobacco were not extensively observed. In a case of polyneuritis induced by tobacco there were characteristic perversions of the color sense. In girl smokers especially, besides feeling the thoracic constriction and precordial pain, there was sometimes observed a constrictive headache.

The pupillary reflexes were now and then influenced. In paralytics with still reacting pupils, the abuse of tobacco caused for some hours a pupillary rigidity, and where myosis existed it was more prominent.

In paretics and organic dements tobacco excesses often induced congestive conditions from vasal paresis, which was often shown in the cutaneous vessels.

The author sums up in the following conclusions:

1. Tobacco is a poison, which, perhaps, more than any other, though having little effect in health, has, on the other hand, the most pronounced action in diseased conditions.

2. Tobacco is especially a poison to the subcortical and bulbar nerve centres, as is demonstrated by the phenomena developed in individuals affected with serious morbid processes of the cortical centres.

3. Being thus capable of producing disastrous effects in convalescent cases who were given to its use before their disorder, and had then suffered no disadvantages, we should be very cautious as to permitting the resumption of its use in such cases, especially in asylums.

THE OPERATIVE TREATMENT OF FOCAL EPILEPSY.

Dr. Charles Baylard Nancrede, *Annals of Surgery*, XXIV., ii., August, 1896, discusses the effects of operation for Jacksonian or localized epilepsy, in which he reports several cases, one or two of which are rather striking in some of their features. In one, while the discharging centre was located by the battery, no excision was made after trephining, but the fits ceased, the contracture and paralysis disappeared, and the patient, at last report, was in a normal condition. The youth of the patient, an eight-year-old girl, was in her favor, but it is impossible, as yet, to say that the results will be lasting.

In another case the operation was made during *status epilepticus*, which had lasted seventy-two hours prior to the trephining.

The conclusions reached by Dr. Nancrede are given as follows:

1. Removal of a discharging lesion in cortical and Jacksonian epilepsy can only be regarded as palliative, the operative scar, in all instances thus far accessible to me, in time becoming a new source of irritation.

2. The earlier the operation is done after the disease becomes fully established, the longer will the immunity last, and it is possible that, if trephining is done very early, the operation may, in a few instances, prove curative, especially if any reliable method can be devised to lessen the extent of the inevitable scar and adhesions between the brain and the membranes.

3. That operation is not so dangerous in competent hands as to forbid our urging trephining in this class of epileptics, especially when done

early, because the chance of prolonged immunity is great, and the fits are apt to be lighter, and to recur at greater intervals after relapse than before trephining.

4. Removal of the discharging lesion is imperatively demanded as a life-saving measure in those rare cases where the intervals between the fits are so short that the paroxysms are practically continuous.

5. In all cases, but especially those characterized by frequent paroxysms, it is an error in practice to permit the early resumption of work, particularly manual labor. Thus, in addition to the last case cited, I would call attention to another, where I trephined for ordinary traumatic epilepsy, which remained perfectly well for nearly two years, until, attempting to lift a heavy weight, the encephalon becoming suddenly congested, the patient at once had a fit, since when the convulsions have been nearly as frequent as they were before operation.

6. Operation removes only one of the factors productive of epilepsy, but the ready response to inadequate stimuli still remains, and can only disappear, if ever, after a prolonged period; therefore, careful avoidance of everything which can, eieher through the mind or body, excite sudden and severe acute cerebral congestion or undue prolonged mental strain, or constant congestion of the nervous centres, must be avoided for the longest practicable period—for the remainder of life, if possible.

A CASE OF HYSTERIA IN A GIRL EIGHT YEARS OF AGE; CURE BY SUGGESTION (*Jour. de Clin. et de Therap. Infantiles.* Vol. 4, No. 11, 1896). Claus and Jacobs give an account of a child of nervous parentage, who had an attack of influenza, with severe pains in the neck, back and side, accompanied by spasmodic movements in the esophageal region. After several days these symptoms ceased, and there developed an area of extreme hyperalgesia over the greater portion of the area supplied by the thoracic and abdominal intercostal nerves on the right side. For eleven months the child would not walk on account of the fear of this pain, and some atrophy resulted. Finally the diagnosis of hysteria was made by the authors, and treatment by suggestion resulted in the girl's walking on the third day.

TOBACCO AND CHOLERA.—A recently published report of investigations of the effects of tobacco during the epidemic of cholera at Hamburg states that there were no live microbes after twenty-four hours in the cigars made up with water containing 1,500,000 cholera microbes to the cubic centimeter. (*Gaz. degli Osp. e delle Clin.*) There were no traces of microbes to be found in any of the cigars manufactured at Hamburg during the course of the epidemic. The microbes die in half to two hours exposure to tobacco smoke, Brazil, Sumatra or Havana tobacco. The smoke of any cigar kills the microbes. The smoke kills in five minutes all the microbes in the saliva. Another fact established is that none of the persons employed in the tobacco factories at Hamburg contracted cholera.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

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In the *Journal of Pathology and Bacteriology*, July, 1896, Kanthock and Stephens publish their observations on the "Escape of Diphtheria Bcailli into the Blood and Tissues," bringing forward facts which must materially alter the former idea that diphtheria is a purely local infection.

An exhaustive review of the literature is made, and reference to the works of numerous investigators, among whom are Wright and Stokes of Boston; Frosch, Booker, Johnston, Strelitz, Flexner and Kutscher.

To mention one series referred to (Wright and Stokes), the bacilli were found in the lungs in 30 out of 31 cases; in the kidney in 6; in the liver in 9 of 29 cases examined; in the spleen once; often in the lymphatic glands, and occasionally in the heart's blood and other organs. To these the authors add 26 cases of their own. In all 26 the lungs showed the organisms; they were present in the spleen in 10 of 21 cases examined, and in the kidney in 2 of 3 cases examined. As to the condition of the infected lung,—there was broncho-pneumonia in 10 of 13 cases (Wright), and in 15 of the authors' 26 cases. The Klebs-Löffler bacillus is rarely found in the lung in pure culture, but associated with streptococci, staphylococci and pneumococci. This is, however, the case in the primary focus of infection, and there the cocci are not supposed to play an important rôle; so why give them a more prominent place in the lung condition and seek, as some do, to prove it secondary, and not a true diphtheritic infection? The writers believe, with others, that the broncho-pneumonia complicating diphtheria may be due to the diphtheria bacillus with or without the association of other organisms, as the streptococcus, staphyloccus or pneumococcus.

In 19 cases of this kind, Wright and Stokes found the diphtheria bacillus alone in 8, together with the streptococcus in 5, with the streptococcus and staphylococcus aurens in 2, with streptococcus pneumococcus and staphylococcus aurens in 1, with the staphylococcus aurens in 1. With streptococcus and pneumococcus in 1, and the streptococcus alone in one. "Thus we must take exception to the statement frequently made, that the broncho-pneumonia in diphtheria is of pyococcal or, more especially, of streptococcal origin. In most cases it appears to be a direct diphtheritic complication."

There is reason to believe that broncho-pneumonia is most frequently found with laryngeal diphtheria. Of Wright's 13 cases, 9 were laryngeal

and 6 of these showed broncho-pneumonia, and of the authors' 26 cases 24 were laryngeal, and 13 showed broncho-pneumonia. They think that tracheotomy is not necessarily the cause of the pneumonia, as it was present in 3 cases where there was no tracheotomy, and in 6 cases with tracheotomy, there was no pneumonia. They conclude "that the broncho-pneumonia met with in fatal cases of diphtheria is often, if not generally, of diphtheritic nature, and is as a rule associated with or preceded by laryngeal diphtheria."

Of twenty-one examinations, bacilli were found in the spleen ten times. The condition of the infected organ was not noted in all cases; but that is unimportant.

In all cases when found in the spleen, the bacilli were present in the lungs, and in 70 per cent. there was broncho-pneumonia.

The authors do not generalize from their own results, as being too few, but when they are added to those of other observers the total goes far to prove "that in fatal cases, there is an extensive escape of the bacilli into the lungs and other organs, that is, the diphtheritic infection readily becomes general."

It is now known that the organisms may escape from the primary focus, (1) by direct transference as seen in cutaneous sores; (2) along existing passages to the nose, eyes, ears, pharynx, stomach, intestines, trachea bronchi, etc.; (3) along the lymphatics to the cervical or bronchial glands; (4) through the circulation to the spleen, liver, kidney and blood.

Wright, Abbott and Ghriskey, and Zarniko have proved experimentally that this migration takes place, and Klein has shown that secondary lesions may occur in inoculated cows, and that the bacilli may be found in the milk.

The process of intoxication they believe to be by means of a toxine—as yet chemically undefined, the direct product of the diphtheria bacilli, and wherever bacilli exist there the toxine is produced.

In conclusion they say: "Clinically we think our observations are of importance, since they prove the necessity of using the anti-toxine energetically in all serious cases of diphtheria, the amount of toxine to be counteracted being always enormous when the bacilli have gained access to the lungs or other organs. The existence or suspicion of broncho-pneumonia should always excite us to action, and the anti-toxine should not be spared when this complication arises. We would also suggest that in laryngeal cases prompt and copious injections should be administered, in order to circumvent the dangers of a diphtheritic broncho-pneumonia. H C.P.

RENAL HEMORRHAGE.

KLEMPERER (*Deut. med. Woch.*) discusses this subject in cases where the kidney is healthy. He first gives evidence to show that hemorrhage may take place from a healthy organ. This has also been proved where the bleeding kidney has been removed, and no disease discovered in it.

The author thinks that the hemorrhage must then be due to a paralysis of the vasoconstrictor nerves and an escape of red cells. Thus an angioneurotic bleeding may occur as well as an angioneurotic œdema. A mere laying bare the kidney in such cases may suffice to cure the bleeding, and the author thinks that this is due to suggestion. Details are given of cases under three headings: (1) Passing renal hemorrhage after over-exertion. The two illustrative cases followed upon excessive horse riding and cycling respectively. The hemorrhage was no doubt due to rupture of small vessels which rapidly healed again on rest. Although in the strict sense such kidneys might not be looked upon as healthy, yet afterwards these organs were left perfectly sound. Other possible causes of such hemorrhage must be carefully excluded. (2) Hæmaturia in bleeders. Here a slight cause may suffice to bring on the bleeding. In the 2 cases given here both patients were the subjects of hæmophilia, as proved by their family and personal history. Perhaps even here nervous influences may have something to do with the hemorrhage, thus explaining the recovery ensuing after hydrotherapeutic measures. (3) Angioneurotic hæmaturia. A man, aged 22, had hæmaturia lasting three months, which ceased by itself. In a year it reappeared. Nitze discovered by the cystoscope that the blood came from the left kidney. The organ was extirpated and found healthy. The hæmaturia ceased. Hæmaturia occurred in another case in a man, aged 37. This ceased on milk diet, rest, and hydrotherapeutic treatment. All other causes of hæmaturia were excluded, but at least a year must elapse before the diagnosis can be looked upon as certain. Klemperer concludes that (1) renal hemorrhage may occur after over-exertion and rapidly disappear; (2) in chronic renal hæmaturia, besides acute nephritis, stone, tuberculosis, pyelonephritis, and tumor, the hæmaturia of bleeders and angioneurotic hæmaturia must be considered; (3) in the hæmaturia of bleeders, no operation, not even cystoscopy, should be practised; (4) in angioneurotic hæmaturia blood and urine are present without other pathological products. There is no enlargement of the organ. The origin of the bleeding is ascertained by tenderness in the renal region, blood casts, and cystoscopy. There may be evidence of general neuræsthenia, but not necessarily so; (5) angioneurotic hæmaturia may occur along with pain, and thus simulate renal calculus; (6) the diagnosis of angioneurotic hæmaturia can only be made after several weeks' observation of the patient; (7) the treatment consists in rest in bed, chiefly milk diet, and suggestive treatment; hydrotherapeutic treatment is much to be recommended; (8) exploratory operations on the kidneys are only to be adopted when, after treatment for several weeks, the bleeding still continues, and the anæmia endangers life; (9) if the kidney is then found healthy, it should not be removed, but the effect of such exploratory operation be awaited.

THE INFECTIOUS CHARACTER OF RHEUMATISM.—In a clinical lecture on this subject (*Journ. de Méd.*,) Jaccoud pointed out that in very many cases of rheumatism some preceding local process has been observed which may serve as a point of invasion to the organism, whatever it may

be, which is the cause of acute rheumatism. Among these by far the most important is tonsillitis, and a striking fact is that the organisms found are exactly the same as those found in the tissues which are the seat of the lesion. For this reason the pharynx, the tonsils, in fact any tissue showing a lesion, may allow the organism to enter, and a case has been quoted in which a wound of the foot seemed to be the lesion to blame. Although nothing definite is known concerning the origin of acute rheumatism, there is such a series of circumstances connected with the disease that its bacterial origin is rendered practically certain. Jaccoud looks upon the infectious nature of rheumatism as beyond doubt when its mode of evolution, its diffusive character, and the fact that there is intrauterine transmission from mother to the fœtus are taken into consideration. One such case is recorded by Jaccoud himself in which a mother suffering from a severe attack of rheumatism gave birth to a child who in twelve hours developed pyrexia with pain and swelling of the joints, all of which gave way to salicylate of soda by the end of a week. This evidence the author looks upon as strongly showing the infectious nature of this disease.

RETENTION OF CHLORIDES IN URÆMIA.—Bohen (*Fortschr. der Medicin*, February, 1897) has studied the results of retention of chlorides in the animal organism by experiments on mice and guinea-pigs. A concentrated solution of sodium chloride was injected under the skin of the abdomen, and it was found that a very small dose—for example, 2.8 g. per kilog. of body weight, produced more or less violent clonic and tonic spasms alternating with a semi-comatose condition, as in uræmia, and in some cases death resulted. Clinically, a marked diminution of the output of chlorides was observed in cases of acute and chronic nephritis, and in some other conditions in which uræmia occurred. Analysis of the liver in a case where uræmia had preceded death showed marked excess of chlorides in its substance, as if the diminution of chlorides in the urine during life were due to their accumulation in the liver. The writer considers that the retention probably plays an important part in the causation of uræmia, and that estimation of the amount secreted may give valuable assistance in prognosis.

THE TOXINE ACTION OF ACETYLENT.—Mosso and Ottolenghi (*Rif. Med.*, January 23rd, 1897) give the results of experiments with this gas on dogs, guinea-pigs, and other animals. They found that acetylene has considerable toxine power. Small quantities of the gas sufficed to endanger the lives of the animals. Half a litre of the pure gas caused severe symptoms of poisoning in dogs. and even when mixed with air (20 per cent.) it proved fatal after an hour. If the gas was administered rapidly, the animals recovered when placed in free air, but if given slowly this did not occur, and the animals died. Large doses act chiefly by paralyzing the respiratory function, and throughout paralytic phenomena preponderate.

NOSE AND THROAT.

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NEW REMEDIES—THE MEDICAL ANNUAL FOR 1897.

Airol—A compound containing bismuth, gallic acid, and iodine. It is a green powder, tasteless and odorless, and insoluble in water, spirit or glycerine.

It has been found specially useful applied as an ointment (10 per cent.) in obstinate *fissures of the nostril*, accompanying sycosis of the upper lip.—*Wien. Klin. Rundschaw.*

Antinosmine—A sodium compound, containing iodine and phenol, a blue powder, easily dissolving in water. Its antiseptic properties equal iodoform, arresting the development of most of the pathogenic microbes. It is odorless, non-toxic and non-irritant. A half per cent. solution may be used freely in the *nose or mouth cavities* as a disinfectant.—*La. Med. Mod.*

Antipyrine (phenazon)—Its hæmostatic effects are powerful and rapid. In *epistaxis* a simple tampon moistened in a solution of this drug (1—5 or 1—2) is usually sufficient.

In more extensive hæmorrhages a 4 per cent. solution in hot water, or the powdered drug, are useful, as after *extraction of teeth or nasal polypi*.

In *amygdalotomy*, tampons may be applied, soaked in the 4 per cent. solution, and in *hæmoptysis* an inhalation of a one per cent. solution.—*Therap. Gaz.*

Dr. Roswell Parke recommends a combination of antipyrine with tannic acid as a styptic. He found by accident that a mixture of antipyrine in an alcoholic solution of tannin produced a gummy mass, at first flocculent, but which quickly cohered and formed a mixture of great stickiness and adhesiveness. The two substances may be used in any proportion, and are so remarkably cohesive that some difficulty may occur in removing it, unless granulations have formed and loosened it.

Creasotal—Has been introduced to overcome the irritant effects of large doses of creasote in lung affections. It breaks up in the intestines into

creasote and carbonic acid, the decomposition being a slow one, maintaining the almost continuous action of the creasote.

It may be given neat in teaspoonsful, or in milk, sweet wine, etc. Very large doses (300 grains a day) may be administered without upsetting the digestion. Just at first there may be some nausea, or even vomiting, but that soon passes off with the continued use of the drug. It has an extraordinary power of improving the appetite, which may become quite ravenous.

Reiner's conclusions on creasotal are:

1. It has precisely the same effect in pulmonary tuberculosis as creasote.
2. It is especially useful in the symptomatic treatment of tuberculosis, diminishing and deodorizing the expectoration, and increasing the appetite.
3. It exercises a favorable influence in the general condition, improving nutrition, and leading to increase of body weight, and so indirectly limiting the spread of the lung affection.
4. It is to be preferred to creasote on account of its milder action, and is indicated in cases when the latter is tolerated with difficulty or not at all.—*Br. Med. Jr.*

THE TREATMENT OF CHOLESTEATOMA OF THE PETROUS BONE WITH A PERMANENT RETRO-AURICULAR OPENING.—Reinhard (*Arch. of Otol.*, xxiv, 2) believes that the only way of bringing about a permanent cure in these cases is to produce a permanent opening toward the external meatus as well as in the lateral wall. This is to be accomplished in one of three ways: 1. By inplantation of broad-based cutaneous flaps from the scalp by Schwartze's method. 2. By Thiersch's transplantations. 3. By cutaneous flaps from the posterior surface of the concha. This prevents the subsequent growth of hair into the cavity. The cutaneous flap should be formed at the beginning of the operation by cutaneous incisions down to the cartilage, one centimetre behind the external margin of the concha; then dissect the flap up to the mastoid process, placing its largest side upon the upper angle of the wound; and finally make the typical parallel incision behind the concha down to the periosteum. The cutaneous defect of the concha may be covered by Thiersch's transplantations.

BINAURAL HEARING.—Bloch (*Arch. of Otol.*, xxiv., 2) sums up the characteristics of binaural hearing as follows:

1. With binaural conduction of sound there is an alternating increase in the auditory impression.
2. This increase grows less as the two auditory impressions become more dissimilar.
3. It depends probably not only on the addition of the bilateral acoustic excitation and the transference of the perception to the interior of the head, but also on an actual central increase of excitability.
4. With the binaural conduction of tone or a noise into the auditory canal, or in its neighborhood, the sound is heard in the head.
5. The subjective auditory field lies on the side of the stronger perception. By changing this, the location of the field may be altered at will.—*Bull. in N. Y. Medical Journal.*

ASTHMA.

The association of asthma with nasal disease has been emphasized by Dr. Greville Macdonald (London). Of thirty cases of nose disease associated with asthma he had twenty manifestly relieved by local treatment, while of these twelve might be quoted as tantamount to complete cures. Of the twenty, four were cases of obstruction due to septal deformities, six were of vascular engorgement or hypertrophy of the inferior turbinated bodies, four were of polypus, and four of adenoids, while the remaining two were instances of that curious œdematous swelling over the upper and anterior portion of the triangular cartilage, so often associated with paroxysmal sneezing. The remaining ten cases unrelieved were all due to polypus. He believed that the latter condition was more often associated with chronic bronchitis than with simple spasmodic asthma, and must be considered as a concomitant of, rather than as responsible for, the bronchial symptoms. From these cases he purposely excluded hay-asthma, for he regretted to have to confess that he had but seldom found this symptom relieved by intra-nasal operation, although so far as the more severe symptom—the sneezing—was concerned, he was greatly encouraged by the results of treatment. Particulars were given of three cases of complete relief of severe spasmodic asthma, which had been treated by himself, the results of operation being so immediate and emphatic that there could be no doubt that the *post hoc* was *propter hoc.*—*London Lancet.*

CORYZA.

Foxwell defines catarrhal fever as an acute specific disorder of a week's duration, occurring with or without fever, characterized pathologically by an exudation—serous, fibrinous, cellular or membranous—from one or more of the lining membranes of the body; with, in some cases, acute glandular inflammation; caused by a micro-organism, probably the pneumococcus of Friedlander, and mildly contagious.

This definition gives us a good working hypothesis with regard to catarrhal conditions, and gives a sufficient explanation of the difficulty in arresting the malady by any medicinal or other methods.—*London Lancet.*

Wunche, Dresden, has employed inhalations of menthol chloroform in the strength of 5 to 10 per cent for the purpose of aborting acute coryza. A few drops are placed upon a handkerchief, and five or six deep respirations taken. By this means the nasal secretion is augmented at first, but afterwards diminished, and the sore throat and largyngeal symptoms which are frequently found associated with a cold in the head are relieved.

The following nasal spray may be employed after the inhalations:

℞ Ichthyol, 1 part; ether and alcohol, each 1 part; distilled water, 97 parts.—*Journal de Med. de Paris.*

EPISTAXIS.

In the majority of cases the bleeding point will be found on examination to be situated on the septum, and usually in the anterior third near the nostril, and bleeding may often be arrested by the simple plan of compressing the nose between the forefinger and thumb.

In treatment the aim is not only to stop the bleeding, but to prevent recurrence. This is done by replacing a weakened point with a healthy cicatrix.

1. If the patient is not bleeding, but has recently done so, search the inside of the nose with a strong light, and in the fore part of the septum mostly several small red vessels will be seen, indicating the affected spot.

If bloody crusts obscure these, gently remove them, and then thoroughly cauterize and destroy the points with a galvano cautery, or chromic acid (or trichloracetic acid) fused on a silver (or aluminum) probe.

2. If the patient be bleeding, wash out the nostril with hot water, and introduce a large tampon of carbolized wool in front, then compress the ala upon it with the finger. Remove the plug to see the bleeding spot, then reapply a second tampon. Again remove, and cauterization will be easy.

3. Where the blood traverses the tampon or flows into the pharynx, wash out with hot water, and pack the whole nasal fossa through a speculum with strips of iodoform gauze, a finger's breadth in width. When needful to remove soften them with hot water, and gently draw them out. If there be further bleeding, again pack with strips; but this is seldom necessary.—Watson Williams in the *Medical Annual.*

LARYNGEAL AND PHARYNGEAL HERPES.

P. WATSON WILLIAMS, IN MED. AN.

Secretan[1] describes this malady as an acute affection occurring in healthy individuals or among sufferers from chronic laryngitis. It seems at times to be epidemic; at other times sporadic. The onset is usually sudden, with febrile reaction. The general symptoms are those of idiopathic cutaneous herpes. As to local manifestations, they begin with hoarseness, aphonia, lancinating pains, dyspnœa, in fact, the usual signs of acute catarrhal laryngitis.

Oedema of the larynx may or may not precede the appearance of the vesicles. The latter rarely exceed more than a dozen in number, are about the size of a millet seed, and last but little time. Soon they burst and form upon the mucosa small erosions covered with white adherent crusts (at times hæmorrhagic in appearance), which fall off in five or six days, and leave a simple depression. The laryngeal eruption may appear alone, or may be accompanied, preceded, or followed by cutaneous or pharyngeal lesions of the same variety, which, of course, greatly facilitate diagnosis. The condition at its onset may easily be confounded

with laryngeal diphtheria, but the clearness of the eruption, its lack of progressive confluence, etc., generally permit of correct diagnosis. The prognosis is invariably good.

Brindel[2] has published a report of three cases, in which he says that there are on record nineteen cases altogether, certainly a surprisingly small number. Brindel remarks that taking cold is the only cause. His conclusions are as follows: "(*a*) This affection, which is not so rare as one might suppose, is only one of the localizations isolated or associated with herpetic fever; (*b*) its most frequent situation is upon the posterior of the epiglottis, and in the vicinity of the arytenoids; (*c*) it is characterized anatomically by the evolution in these regions of herpetic vesicles surrounded by an inflammatory zone, and clinically by symptoms common to herpetic fever, on the one hand, and on the other by dysphagia, by hoarseness, a little dyspnœa—symptoms which may all be present at once, and which are in relation with the localization of the herpes; (*d*) The invasion is sudden, the progress rapid, the prognosis benign, recovery complete, although recurrence is possible; (*e*) Only very rarely is herpes of the larynx accompanied by phenomena analogous to those of croup.

Wright has recently had a case in which there was a single vesicle on the posterior surface of the epiglottis, with the constitutional and local symptoms, but without vesicles elsewhere.

TREATMENT.—Secretan recommends disinfectant inhalations, ice locally, a light purgative, and confinement to bed.

REFERENCES.—[1] "Annales des mal. de l'oreille," etc., 1895, XXI., p. 113, and "Amer. Med. Surg. Bul.," Jan. 11, 1896; [2] "Revue de laryngologie," etc., No. 6, March 15, 1895, cited by J. Wright, "New York Med. Jour." Feb. 8. 1896.

MICRO-ORGANISMS IN THE HEALTHY NOSE.—Thomson and Hewlett (*Arch. of Otol.* xxiv., 3 and 4) summarize the resuts of their observations as follows:

1. In all bacterioscopic investigations of the nasal fossæ, in all researches as to the action of nasal mucus, etc., a clear distinction must be made between the vestibule of the nose and the proper mucous cavity. The former is lined with skin, and is not part of the nose cavity proper, but only leads to it.

2. Contamination with the lining of the vestibule is difficult to avoid, even when this source of error has been realized.

3. In the dust and crusts of mucus and *débris* deposited among the bibrissæ of healthy subjects micro-organisms are never absent, and are usually abundant.

4. On the Schneiderian membrane the reverse is the case. Under normal conditions micro-organisms are never plentiful here, are rarely even numerous, and in more than eighty per cent. of cases no organisms whatever are found, and the mucus is completely sterile.

5. The occurrence of pathogenic organisms must be so infrequent that their presence on the Schneiderian membrane can only be regarded as quite exceptional.

PAEDIATRICS.

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DIPHTHERIA.

In *Annals of Gynæcology and Pædiatry*, April, '97, F. L. Morse, M.D., Boston, has a very useful paper entitled "Diphtheria," giving an exhaustive *résumé* of his experience in 1,972 cases treated in the Boston City Hospital from September, 1895, to October, 1896. The labor expended has evidently been enormous, both in collecting and tabulating his cases and in registering results of clinical study of them. We append his remarks on Antitoxine Rashes in full as a valuable contribution to a subject as yet not clearly widely understood among the profession:

"The character of the eruptions has been the most puzzling of any of the complications due to antitoxine. There have been a number of cases in which the eruption assumed the appearance of a well marked urticaria with typical wheals, and in this class there was usually no doubt as to the diagnosis. In some of the cases the distribution of the eruption has been peculiar, the urticaria assuming a symmetrical arrangement on either side of the body. All of these were usually accompanied by itching and burning of the skin, but no constitutional disturbance. Another class of cases, and perhaps the most important from a diagnostic point of view, are those in which the patient develops a general erythematous blush, at places assuming a somewhat punctate appearance, and which disappears entirely, usually in the course of from eight to twenty-four hours. It is in this class of cases that it is obviously the greatest importance to differentiate from scarlet fever, and this is particularly the case in a contagious hospital, where, if it is scarlet fever, other patients will be exposed to the disease.

"The time of the appearance of the eruption is, of course, of some importance, but, as the incubation period of scarlet fever varies so considerably in many cases, and has no fixed period, while most of the antitoxine rashes appear at about the end of the first week, an eruption appearing from twenty-four to seventy-two hours after admission with a punctate appearance would more likely be considered scarlet fever than one due to antitoxine. Other points of importance in a diagnosis, if the eruption is one of scarlet fever, have been the presence of an eruption on the palate, the redness and dryness of the palms of the hands and the soles of the feet, the rise in temperature, the presence of vomiting—this symptom occurring in about 80 per cent. of all cases of scarlet fever, the

rash beginning about the neck and upper part of the chest and extending downwards and being confirmed in a few days by the appearance of desquamation. If, on the other hand, the eruption is due to antitoxine there will be no eruption on the palate, no redness or dryness of the palms and soles, usually no rise in temperature, or vomiting, and the appearance of the rash on any part of the body, which, if it extends, does so in no definite manner. The desquamation which is characteristic of scarlet fever does not, of course, occur in these cases.

"Another class of rashes are those which by their papular appearance closely simulate an eruption of measles, but, as the incubation period of this disease is more definitely fixed than that of scarlet fever, and as the cough and conjunctivitis usually precede the eruption, the diagnosis is easier. There is also, if the rash is due to antitoxine, little or no suffusion of the eyes, no cough, no eruption on the palate, and the initial lesions of this eruption may appear on any part of the body, while in measles the rash appears behind the ears and on the neck and chest and extends downwards. If due to antitoxine, it will have disappeared in from twenty-four to forty-eight hours, at which time a measles eruption would be at its height.

"The rashes due to antitoxine have also assumed various other forms. Cases have been observed in which it resembled an eruption of tinea; others where it had the appearance of rose spots, and in two instances the eruptions have been remarkable on account of their character. In one of these it was a true eczema involving the greater part of the trunk, and also the head. It persisted for about ten days and then disappeared completely. It was accompanied by scales and crusts, but not by the usual amount of infiltration expected from the extent of the process. The other eruption commenced as a diffuse erythema of various parts of the body and was quite general in character. It persisted rather longer than usual, but the diagnosis of its being an antitoxine was never questioned. As it faded it assumed a marked hemorrhagic type, and over various parts of the body were seen these large black and blue areas as if due to some external violence. They all, however, faded in a few days.

"Combinations of these several eruptions have occurred and it is not unusual to observe a macular or papular eruption with a diffuse erythematous blush, and sometimes accompanied by an urticaria on the same patient.

"A typical erythema multiforme has been observed in a few cases and an erythema or an urticaria has been also observed, localized at the point of the injection of the antitoxine.

"These rashes are always interesting to observe, occasionally hard to diagnose, should always be isolated in questionable cases, and usually disappear in from twenty-four to forty-eight hours.

"The time of the appearance of the antitoxine rashes has been particularly interesting, and also very instructive when a diagnosis is to be made; especially when one rash simulates an eruption of scarlet fever. The earliest cases appear on the second day after the injection, but it is rather unusual to expect any rash until the fourth day, and most of them appear at about the end of the first week or ten days. The latest appearance has been on the 27th day, as observed in cases staying in the hospital; but one

case has occurred when the patient was discharged from the hospital on the sixth day after entrance, but returned three weeks later with an urticaria, and in two months and three days later with a second well marked urticaria. Second urticariæ may, of course, appear at any time, but the experience in the hospital shows that they most likely appear at about the end of the second week, between fourteen and twenty days.

"The septic rashes of diphtheria are also sometimes seen, but not as frequently as before the days of antitoxine, and are usually present only in those cases which have gone untreated from the outset of the disease and are markedly septic on their admission to the hospital. The rash is usually a diffuse general erythematous blush which appears suddenly, thus resembling an antitoxine erythema, or in exceptional cases it is a coarse punctate eruption, too coarse, however, to simulate scarlet fever, and in one case it has been hemorrhagic in character. They can usually be differentiated from other rashes on account of the profound septic condition which the patient presents. Following the administration of the sulphate of atropine for its stimulating action it sometimes happens that a flush appears usually upon the face only, but occasionally extending so as to involve the whole body. It thus may resemble an antitoxine rash, a septic rash or an eruption of scarlet fever, but the history of the administration of the drug is an important matter and will usually decide whether the rash is or is not due to the use of atropine."

ACUTE ANTERIOR POLIOMYELITIS.

Acute anterior poliomyelitis, or infantile spinal paralysis, is one of the most important of the nervous affections of childhood. It presents several types in the earlier stages, but in the majority of cases follows a very typical clinical course. The variations from the ordinary type are well described in the present number by Dr. Peckham.

The presumptive evidence that this peculiar affection is an infectious disease is very strong. While it runs a chronic course, its onset is sudden and acute, and is preceded by very few premonitory symptoms, frequently by none whatever. The most common group of initial symptoms are fever, vomiting, and convulsions. The fever ranges between 101° and 103°, but occasionally reaches a higher point. It continues for twenty-four or forty-eight hours, when it gradually subsides. In rare cases it is present for a week. The vomiting occurs very early, and is independent of gastric irritation. It frequently assumes the cerebral type. Convulsions are of less frequent occurrence than are the two preceding symptoms. They are most common during the first day of the illness, but occasionally occur during the second and third days. They are general in character. Coma is sometimes seen, but is less frequent than are convulsions. The severity of the onset is an uncertain criterion by which to foretell the gravity of the later symptoms.

Paralysis may be present from the outset, but it is rarely recognized before the second or third day, and is frequently overlooked until a later period. The diagnosis cannot be made until the paralysis is recognized. It is at first widely distributed, but as a rule diminishes after the first week, and no opinion can at first be formed as to which members are to

be permanently paralysed. The subsidence of the general paralysis may require several months. This retrogression of the paralysis, leaving one or more members permanently paralysed, is one of the most characteristic features of the disease. Monoplegia is the most common form assumed by the later paralysis, the leg being more commonly affected than the arm. Hemiplegia may occur, but is rare; facial paralysis is extremely rare. In a considerable number of cases the distribution of the later paralysis is peculiar and apparently contradictory.

The paralysis is of the flaccid order, and is rapidly followed by altered electrical reaction and diminished reflexes. Atrophy is, in fact, a most characteristic feature of the disease. It may sometimes be noticed by the third week, or even earlier. The wasting affects chiefly the muscles and subcutaneous tissues, but the growth of the bone is frequently retarded. In the later stages the skin is blue, cold and clammy, and the limbs seem relaxed and lifeless. Contractures occasionally occur, but they are never spastic like those of cerebral paralysis.

The electrical reactions are of great importance. Both the muscles and nerves exhibit, with rare exceptions, the complete reaction of degeneration. These changes in electrical behavior appear very early in the disease. The faradic current fails to elicit a response from either the muscles or nerves. Galvanic stimulation fails to excite the nerves, and the response of the muscles is sluggish. Sachs states that it can be asserted with some degree of certainty that those parts which continue to respond well to faradism after a week or more will not remain paralysed. During the later stages the return of the faradic response in any muscle or a normal behavior during galvanic stimulation would lead us to infer that it may recover its previous function, but muscles which exhibit marked electrical changes for a considerable period of time have suffered serious injury.

Pain is rarely present in acute anterior poliomyelitis; the bladder and rectum are not involved; after the initial stage there are no cerebral symptoms.

"Summarizing all the symptoms," says Sachs, "we may state that the diagnosis of poliomyelitis may be made if paralysis, however widely distributed or however narrowly limited, and in whatever part of the body, comes on after an acute onset marked by fever, vomiting and convulsions, and if this paralysis is associated at an early day with atrophy, with changes in electrical reactions, and with a loss of reflex activity in the paralyzed parts."—*Arch. of Pœdiatrics*, Mar., '97.

THE TREATMENT OF POTT'S DISEASE BY FORCIBLE REDUCTION OF THE DEFORMITY.

H. L. Taylor, of New York, in *Pediatrics*, April, 1st '97, notes a method of treatment of Pott's Disease of Forcible Reduction of the Deformity under chloroform. "M. Calot, of Berck, in a recent communication to the Paris Academy of Medicine, published in the *Annales de Chirurgie et d' Orthopédie* for December last, states that he has performed the operation of forcible correction of the bosse thirty-seven times without an accident, and with the happiest results. After chloroformization

the child is placed face down, and while the assistants make traction on the extremities the operator presses down upon the bosse with all his strength. Snapping sounds are heard and the deformity in recent cases disappears within a couple of minutes: callosities are excised and in the severe cases the spinous processes over the bosse are removed. The improved position is maintained by the application of a strong plaster jacket, including the head and pelvis as well as the trunk. This is allowed to remain three or four months and is followed by a second and sometimes by a third; after this, consolidation is said to be complete, and the child is permitted to go about with an ordinary plaster corset. The patients treated in this manner have ranged from two to twenty years of age, and their deformity has lasted from three months to eight years. There have been no deaths, and in only one case symptoms of paralysis, which disappeared after the adjustment of a stronger jacket. In two cases abscess followed; on the other hand, in three cases in which abscess was already present, these were absorbed. In projections of moderate size with a duration of from four to eight months the deformity entirely disappeared; in the severe deformities, with a duration up to six years, the results were often nearly perfect and always surprising. In the few cases in which it was not satisfactory, the operation was followed by a cuneiform resection of the spinal column, which permitted considerable further correction."

Dr. Ling comments adversely upon such procedure, and we think wisely. "To deliberately break through and tear open a tuberculous focus has never been considered good surgery: in the light of our present knowledge it seems amazing that serious results have not followed such a procedure, especially when we recall the many recorded cases in which general or meningeal tuberculosis has followed the most trivial interference. The author does not state how much time has elapsed since the observations—evidently a period of several years: and a much larger experience would be necessary to justify such confident and sweeping statements."

MORPHINOMANIA IN AN INFANT FOUR MONTHS OLD.

La France Médicale, May 15, 1896, contains an account of a four months' old baby, brought up on the bottle by a nurse. As the baby was irritable and sleepless at night, the nurse had nothing better to do than to add to the milk a decoction of poppies. At first the poppy head was sufficient to produce sleep for six to eight hours; later on three were required, which were generally given in the evening. On swallowing, the child seemed well and ate fairly. Its development, however, seemed to stop for two months, and it was pale, delicate and thin. As soon as the decoction was stopped the child got irritable, crying constantly, and refused to take any nourishment. After a week of abstinence it became very weak, and the pulse and respiration became frequent. Then a decoction was administered again, and the infant recuperated at once, and after sleeping for several hours woke up apparently in good health. When the drug was suppressed again, the stools became greenish and mucous, and the child died ten days later.—*Journal of Nervous and Mental Diseases.*

The Canada Lancet

A Monthly Journal of Medical and Surgical Science, Criticism and News.

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The Largest Circulation of any Medical Journal in the Dominion.

Editorial.

TRINITY ALUMNI ASSOCIATION.

The Trinity Alumni Association met at Trinity University, April 7th, Dr. J. C. Mitchell, Enniskillen, President, in the chair. The nomination and election of officers for the following year resulted as follows :

President, Elias Clouse, Toronto; Vice-President for Toronto, Dr. Rowan ; for Eastern Ontario, Dr. A. S. Tilley, Bowmanville ; Western Ontario, Dr. Gerald O'Reilly, Guelph ; Secretary, Dr. Harold Parsons ; Treasurer, W. H. Harris, Toronto ; Graduates' Representative, Dr. Eadie. Toronto.

A telegram from Seneca D. Powell announced that he was unable to attend the meeting, owing to illness.

THE USE OF ANTITOXINE IN DIPHTHERIA.—Dr. Dillon Brown was unable to be present, but sent his paper, which Dr. D. J. Gibb Wishart read. It consisted of an analysis of 901 cases. From a therapeutic standpoint, diphtheria presented two distinct diseases—the laryngeal and the pharyngeal variety. The chief danger from the laryngeal form was obstruction ; while from the naso-pharyngeal it was poisoning. In the laryngeal form the affection was more often unmixed and more readily yielded to the antitoxine ; in fact, the serum was almost a specific for it. An analysis of his laryngeal cases for some years back proved this. Under the old, from September, 1885, to September, 1886, he treated 37 cases with 18.9 per cent. recoveries ; 1886 to 1887, 65 with 23 per cent.; 1887 to 1888, 89 with 21.4 per cent.; 1888 to 1889, 95 with 32.6 per cent.; 1889 to 1890, 63 with 30.1 per cent.; 1890 to 1891, 63 with 36.5 per cent. Then began calomel sublimation : 1891 to 1892, 117 with 34.1 per cent ; 1892 to 1893, 84 with 38 per cent.; 1893 to 1894, 76 with 38 per cent.; 1894 to 1895, 57 with 43.8 per cent. Then began antitoxine : 1895 to 1896, 30 with 56.6 per cent.; 1896 to April, 1897, 30 with 90 per cent.

Drs. C. Trow, J. G. Wishart, Eadie, Powell, Baines, Clouse and Fenton

discussed the paper. (We hope to give the paper *in extenso* in a future number.)

LACERATIONS AND EROSIONS OF THE VIRGIN CERVIX.—Dr. J. L. Davison read a paper with the above title. This was a comparatively new subject, but was of considerable medico-legal importance.

Dr. Harold Parsons read an interesting paper on "Bone Lesions Following Typhoid."

In the evening a goodly number of the Alumni met around the festive board at McConkey's, where the evening was spent in speeches, song and story. Old Trinity was lauded and old friendships renewed. The meeting, while not so successful numerically as in former years, made up for the lack of numbers in enthusiasm. We predict a successful meeting for next year under the able management of Dr. Clouse.

BRITISH MEDICAL ASSOCIATION.

We publish the list given below of the officers appointed by the Home Authorities for the forthcoming meeting of the British Medical Association. It would, we think, be difficult to have a more distinguished list of office-bearers, especially when it is taken into account how many of the leaders of the profession in the Old Country have already filled the most important posts at previous meetings, and, as a consequence of the wise system of rotation adopted by the Council of the Association, were not eligible to serve here. That so many who have not previously accepted office have consented to preside here in Canada is a matter for self-congratulation.

Of those appointed to deliver addresses we need say little. Dr. Osler is one of ourselves, even if a great American university has for a time secured him for its staff—and as a Canadian is a most happy choice, inasmuch as he belongs to Toronto as well as to Montreal. Mr. Mitchell Banks is the most popular surgeon in the north of England, is a speaker of great power, and is already no stranger in Canada.

Of Presidents of Sections, we have secured two representative Canadians in Dr. E. P. Lachapelle and Dr. R. M. Bucke. Most of the names of the remaining presidents are familiar to all of us—Stephen Mackenzie, Christopher Heath, Watson Cheyne, Edward Nettleship and Malcolm Morris. Drs. Sinclair, Waller, Leech and Grenville Macdonald may not be so generally known, though each is recognized as a leader by those interested in his special line of work.

Referring to the list of Vice-Presidents in the various subjects, it will be seen that a most conscientious attempt has been made by the parent association, at the suggestion of the local Executive Committee, to embrace the whole of the Dominion. When Montreal of its own free will gave up the opportunity of appointing its leading practitioners as presidents of the various sections, it is but becoming that leaders in the profession in Montreal should be appointed to vice-presidential posts, and no one can object if this list contains a considerable portion of well-known Montreal names; but it will be seen that Toronto, Quebec, London, Win-

nipeg, Hamilton, Halifax, St. John, N.B., Victoria, and all the leading centres are given recognition, and are duly honored so far as it is in the power of the authorities. Naturally there has been a difficulty in appropriately including all the leaders in the sections of Medicine, Surgery and Gynæcology. It has, in fact, been impossible to include all whom we would have desired to see nominated as vice-presidents, but it must be confessed that, as far as they go, the lists in these subjects are excellent.

BRITISH MEDICAL ASSOCIATION.

The 65th annual meeting of the British Medical Association will be held at Montreal on Tuesday, Wednesday, Thursday and Friday, August 31st, September 1st, 2nd and 3rd, 1897.

PRESIDENT, Henry Barnes, M.D., M.R.C.S., F.R.S.E., J.P., Physician Cumberland Infirmary, Carlisle. PRESIDENT-ELECT, T. G. Roddick, M.D., M.P., Professor of Surgery in McGill University, Montreal. PRESIDENT OF THE COUNCIL, Robert Saundby, M.D., F.R.C.P., 83A Edmund Street, Birmingham. TREASURER, Charles Parsons, M.D., Dover.

Addresses will be delivered as follows:

MEDICINE.—Dr. W. Osler, F.R.C.P., Professor of Medicine in the Johns Hopkins Univ., Baltimore, U.S.A.

SURGERY.—Mr. William Mitchell Banks, F.R.C.S., Surgeon to the Liverpool Royal Infirmary.

PUBLIC MEDICINE.—

The scientific business of the meeting will be conducted in eleven sections, as follows, namely:

MEDICINE.

President: Dr. Stephen Mackenzie, London. Vice-Presidents: Dr. J. E. Graham, Toronto; Dr. W. Bayard, St. John, N.B.; Dr. J. P. Rottot, Montreal; Dr. F. W. Campbell, Montreal; Dr. J. Stewart, Montreal; Dr. H. P. Wright, Ottawa. Secretaries: Dr. H. A. Lafleur, Montreal; Dr. W. F. Hamilton, Montreal; Dr. William Pasteur, 4 Chandos Street, Cavendish Sq., London, W.

SURGERY.

President: Mr. Christopher Heath, London. Vice-Presidents: Sir Wm. Hingston, Montreal; Hon. Dr. Sullivan, Kingston, Ont.; Hon. Dr. Farrell, Halifax, N.S.; Dr. I. H. Cameron, Toronto; Dr. F. LeM. Grasett, Toronto; Dr. James Bell, Montreal; Dr. G. E. Armstrong, Montreal. Secretaries: Dr. R. C. Kirkpatrick, Montreal; Dr. Thos. Walker, St. John, N.B.; Mr. Jordan Lloyd, F.R.C.S., Richmond Hill, Birmingham.

PUBLIC OR STATE MEDICINE.

President: Dr. E. P. Lachapelle, Montreal. Vice-Presidents: Dr. Montizambert, Quebec; Dr. R. Craik, Montreal; Dr. P. H. Bryce, Toronto; Dr. Sir James Grant, Ottawa; Dr. R. H. Powell, Ottawa; Secretaries: Dr. Wyatt Johnston, Montreal; Dr. E. Pelletier, Montreal; Dr. Henry Littlejohn, Town Hall, Sheffield.

OBSTETRICS AND GYNECOLOGY.

President: Prof. W. J. Sinclair, Manchester. Vice-Presidents: Dr. Wm. Gardner, Montreal; Dr. James Perrigo, Montreal; Dr. J. A. Temple, Toronto; Dr. J. C Cameron, Montreal; Dr. T. J. Alloway, Montreal; Dr. James Ross, Toronto. Secretaries: Dr. D. J. Evans, Montreal; Dr. W. Burnett, Montreal; Dr. A. E. Giles, 58 Harley Street, Cavendish Sq., London, W.

PHARMACOLOGY AND THERAPEUTICS.

President: Dr. D. J. Leech, Manchester. Vice-Presidents: Dr. A. D. Blackader, Montreal; Dr. James Thornburn, Toronto; Dr. C. R. Church, Ottawa; Dr. J. B. McConnell, Montreal; Dr. F. J. Austin, Sherbrooke; Dr. Walter George Smith, Dublin. Secretaries: Dr. F. X. L. DeMartigny, Montreal; Dr. J. R. Spier, Montreal; Dr. Charles Robertshaw Marshall, Downing College, Cambridge.

PATHOLOGY AND BACTERIOLOGY.

President: Mr. Watson Cheyne, F.R.S., London. Vice-Presidents: Dr. J. G. Adami, Montreal; Dr. J. Caven, Toronto; Dr. J. Stewart, Halifax; Dr. J. C. Davie, Victoria; Dr. L. C. Prevost, Ottawa; Dr. M. T. Brennan, Montreal. Secretaries: Dr. W. T. Connell, Kingston; Dr. C. F. Martin, Montreal; Dr. Robert Boyce, University College, Liverpool.

PSYCHOLOGY.

President: Dr. R. M. Bucke, London, Ont. Vice-Presidents: Dr. D. Clark, Toronto; Dr. T. J. Burgess, Verdun, Que.; Dr. A. Vallee, Quebec; Dr. G. Wilkins, Montreal. Secretaries: Dr. J. V. Anglin, Montreal; Dr. George Villeneuve, Montreal; Dr. J. G. Blandford, London County Asylum, Banstead, Surrey.

OPHTHALMOLOGY.

President: Mr. E. Nettleship, London. Vice-Presidents: Dr. F. Buller, Montreal; Dr. R. A. Reeve, Toronto; Dr. Ed. Desjardins, Montreal; Dr. A. A. Foucher, Montreal. Secretaries: Dr. W. H. Smith, Winnipeg; Dr. Jehin Prume, Montreal; Dr. T. H. Bickerton, 88 Rodney Street, Liverpool.

LARYNGOLOGY AND OTOLOGY.

President: Dr. Greville Macdonald, London. Vice-Presidents: Dr. W. Tobin, Halifax; Dr. G. A. S. Ryerson, Toronto; Dr. H. S. Birkett, Montreal; Dr. G. R. McDonagh, Toronto. Secretaries: Dr. Chretien, Montreal; Dr. H. D. Hamilton, Montreal; Dr. W. Permewan, 7 Rodney Street, Liverpool.

ANATOMY AND PHYSIOLOGY.

President: Augustus Waller, M.D., M.B., F.R.S., London. Vice-Presidents: Dr. F. Shepherd, Montreal; Dr. A. B. Macallum, Toronto; Dr. T. Wesley Mills, Montreal; Dr. A. Primrose, Toronto; Dr. J. B. A. Lamarche, Montreal; Dr. H. B. Fraser, Stratford, Ont. Secretaries: Dr. J. M. Elder, Montreal; Dr. W. S. Morrow, Montreal.

DERMATOLOGY.

President: Mr. Malcolm Morris, London. Vice-Presidents: Dr. G. E. Graham, Toronto; Dr. F. J. Shepherd, Montreal; Dr. J. A. S. Brunelle, Montreal; Dr. J. L. Milne, Victoria. Secretaries: Dr. Gordon Campbell, Montreal; Dr. J. M. Jack, Montreal; Dr. James Galloway, 21 Queen Anne Street, Cavendish Square, London, W.

THE PROFESSION IN CANADA AND THE NEW CUSTOMS TARIFF.

On the 22nd of April, 1897, a new tariff was brought down, and certain of its items have special interest for physicians. In the budget speech the Hon. the Minister of Finance said: "We give the medical and dental professions a boon which the younger and less wealthy members of these professions will appreciate when we put all surgical and dental instruments on the free list." It is satisfactory to know that the arguments which were forcibly presented by medical associations all over Canada last year in favor of admitting surgical instruments free of duty have prevailed. Not many years ago a dollar in Canada would go no further in the purchase of on outfit of this kind than sixty cents in New York, and a shilling or mark in Europe. We were paying for poor materials and for patterns that should have been obsolete more than the very finest instruments should have cost. A reduction to 15 per cent., made by the last Finance Minister, improved matters greatly, but even this duty hindered the direct importations, which will now be in order if the equipments demanded by specialized medical practice are not offered here at reasonable rates. The Dingley tariff, now before the United States House of Congress, puts a duty of 45 per cent on instruments. As Germany is now making the great bulk of the world's surgical instruments, it would seem that we in Canada ought to have advantages over our American cousins in this respect if competition is keen enough to give it to us. The Government of the day has been less considerate of

us in the matter of books. Instead of a duty of six cents per pound, we are now to be taxed 20 per cent. on the value of such imports. Osler's Practice is listed at $5.00 and weighs about four pounds. Under the old rate the duty would have been 24 cents, while under the new it will be from 70 cents to $1.00, according to the discount obtained. Books printed and manufactured more than twelve years ago are on the free list, but such books in medicine have historical interest only.

A real injustice, which the Government should be urged to remove, is to be found in the last paragraph of the following section of the free list: "Books not printed or reprinted in Canada, which are included and used as text-books in the curriculum of any university or incorporated college in Canada for the use of students thereof; books specially imported for the bona-fide use of incorporated mechanics' institutes, public free libraries, or any duly organized law association or society, for the use of its members; not more than two copies of each book, under regulations made by the Governor-General-in-Council." By what reasoning can the free importation of books for law associations or societies be justified when similar privileges, though often asked for, are denied to medical libraries, and when law books are published here in large numbers, while medical books never have been and for many years to come cannot be published here.

TRANSACTIONS OF THE CANADIAN MEDICAL ASSOCIATION.—We have received from the Secretary, Dr. F. N. G. Starr, a copy of the transactions of the Canadian Medical Society at its twenty-ninth meeting, August, 1896. A copy will be sent to each member who was present, and there is a limited number of copies, which will be sent to those members who were unable to attend, on the receipt of $1, by the Secretary, Dr. Starr, 471 College Street, Toronto.

NATIONAL CONFEDERATION OF STATE MEDICAL EXAMINING AND LICENSING BOARDS.

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	Jas. M. Hays, Greensboro, N.C.

Preliminary announcement of the Seventh Annual Meeting.

Office of the President, 284 Franklin St., Buffalo, N.Y., March 15, 1897.

DEAR DOCTOR—

The seventh annual meeting of this Confederation will be held in the small banquet hall of the Hotel Walton, at Philadelphia, Monday, May 31, 1897, at 10 o'clock, a.m. The following programme has been arranged:

I. Address of welcome, by A. H. Hulshizer, of Pennsylvania State Board of Medical Examiners.
II. Response, by Vice-President Reed.
III. Report of the Committee on Minimum Standard of Requirements.
IV. Discussion and action thereon.
V. Report of the secretary and treasurer.
VI. Annual address of the president.
VII. Some practical experience with, and results of, the medical law of Pennsylvania, Wm. S. Foster, Pittsburgh.
VIII. The need for exact information as to the equipment, methods and requirements of our medical schools, J. N. McCormack, Bowling Green, Ky.
IX. Address by Prof. J. W. Holland, M.D., Dean Jefferson Medical College, Philadelphia.
X. Paper.
XI. Miscellaneous business.
XII. Election of officers.
XIII. Adjournment.

The object of the confederation is to consider questions pertaining to State control in medicine and to compare methods in vogue in the several States; the collection and dissemination of information relating to medical education, and to consider propositions that have for their purpose advancement of the standards in the United States. A cordial invitation is extended to all members and ex-members of State Medical Examining Boards, and to physicians, sanitarians and educators who are friendly to the objects named, to attend the meeting and participate in its proceedings. By order of the Executive Council,

WILLIAM WARREN POTTER, President.

A. WALTER SUITER, Secretary.

AN ACROSTIC—LA GRIPPE.

A-ll the nerves gone on a bender,
N-ot an organ is exempt,
T-eeth and scalp and muscle tender,
I-cy chills the bones pre-empt;
K-aleidoscopic are the symptoms legion.
A-s they overrun the system,
M-aking life a weary region,
N-o one able to resist them.
I-s there nothing that will cure?
A-ntikamnia will, I'm sure!

Atlanta, Ga. FREDERICK B. SUTTON, M.D.

ELECTRICAL FACTS FOR THE GENERAL PRACTITIONER.

The following tabulated statement from the *Electro Therapeutist* will be read with interest by many whose education in electricity is not up to date: The farradic or interrupted current cures disease mainly through physiological and mechanical processes, producing no appreciable chemical effect in the tissues.

In each faradic battery there should be two coils—primary and secondary.

The current from the primary coil has greater quantity and produces greater mechanical effects, but lacks penetrating power, and is more useful in superficial troubles, particularly where mechanical efforts are desired.

It is also of service in internal treatments for many vaginal and uterine diseases.

In the primary current there is some difference in polarity, the positive pole producing greater sedation and the negative pole greater stimulation.

The secondary coil produces a current having much greater penetrating power than the primary current.

It will more easily overcome resistance on account of its greater tension, and is to be preferred to the primary current in treating deeply-seated conditions.

There is no appreciable difference in polarity in the current from the secondary coil.

The current from the secondary coil is much more pleasant in its effect, particularly to nervous subjects.

In the direct galvanic current there are no interruptions to the current as in the physiological and mechanical effects.

There is no sensation to the current beyond a feeling of numbness and burning beneath the electrodes.

In general terms, it may be stated that the faradic current is to be preferred in muscular troubles and the galvanic in nervous diseases.

The galvanic current will produce a greater degree of sedation or stimulation.

The galvanic current should be used to stimulate the absorbents, to remove effusions, morbid growths, callosities, tumors, facial blemishes, superfluous hairs, etc. In these conditions the faradic current is practically powerless.

The positive pole of the galvanic current is much more sedative, and the negative pole much more irritating and stimulating.

Electrolysis and cataphoresis can only be used with the galvanic current.

To produce the most pronounced sedative effect and allay irritability make stabile applications of the positive pole, galvanic current.

To produce the most marked irritation, use the negative pole of the galvanic battery, or reverse the polarity frequently.

Electricity has a decidedly refreshing and soothing effect upon the entire nervous system, and is of great service in nearly all nervous diseases.

Either faradic or galvanic current will equalize the circulation, increase the flow of blood to the surface and extremities, and improve nutrition and assimilation.

Book Reviews.

THE YEAR-BOOK OF TREATMENT FOR 1897. A Critical Review for Practitioners of Medicine and Surgery. Crown octavo, 488 pages. Cloth, $1.50. Philadelphia and New York. Lea Brothers & Co., 1897.

No practitioner of medicine, surgery, or of any of the specialties can afford to neglect this work, the value of which far exceeds its very modest price. The Year-Book of Treatment furnishes a critical and authoritative epitome of a year's progress in all branches of practical medicine. That it has performed this service acceptably is evident from the consecutive publication of thirteen annual issues, and it may truly be said that the possessor of the series enjoys the advantage of a connected view of medical advance, always fresh and brought up to the latest date by each new volume. The whole domain of practical medicine is thus annually covered in a series of twenty-five chapters, each being assigned to a recognized authority, who gives in full detail all that is both true and new, with a critical statement of the comparative value and special applicability of the various drugs, prescriptions and methods of treatment. The work is systematically arranged and well indexed, and is an elbow-consultant always ready for instant use.

CLINICAL LESSONS ON NERVOUS DISEASES. By S. Weir Mitchell, M.D., LL D., Edin., Member of the National Academy of Sciences, Honorary Fellow of the Royal Medico-Chirurgical Soc ety of London. Handsome 12mo, 299 pages, with illustrations and two colored plates Cloth, $2.50. Lea Brothers & Co., publishers, Philadelphia and New York, 1897.

Dr. Mitchell stands easily among the foremost of his profession in a country which has largely created modern neurology, and this volume presenting the ripest knowledge drawn from his vast experience will command wide attention. The author has here gathered and enriched the lessons afforded by typical and instructive cases appearing at his clinic, which enjoys the advantages of material from a special hospital, its ward and out-services. Practitioners of general medicine, as well as neurologists, will value its vivid portraiture of disease and the sagacious indications for prevention and treatment, which bear the stamp of the highest authority.

CLOUSTON ON MENTAL DISEASES. New edition. Clinical Lecturos on Mental Diseases, by Thomas S. Clouston, M D., F.R C.P.E., Lecturer on Mental Diseases in the University of Edinburgh. Fourth edition, thoroughly revised. Octavo, 736 pages 15 full page plates. Cloth, $4.75. With Fulsom's Laws of the United States on the Custody of the Insane ($1.50) $5.50 for the two works.

The wide dissemination of mental diseases, and the greatly-increased difficulty of treating them successfully in advanced stages, render it advisable for every practitioner to inform himself concerning their first manifestations and appropriate measures for their cure or control. The recognition of these facts is, perhaps, the cause of the demand for four editions of Dr. Clouston's authoritative work. He has skilfully chosen the form of lectures to secure the facility which a narrative style affords in the vivid picturing of this especial class of diseases, but each lecture is arranged on a systematic plan, opening with an exceedingly instructive resume of the special subject and following with the detailed description of the clinical picture, the characteristics, varieties, treatment and prognosis. Typical illustrative cases are aptly introduced. This edition is enriched with fifteen instructive full page plates. In connection with Folsom's "Laws of the United State on Custody of the Insane," prepared to accompany it, Clouston's "Mental Diseases" will furnish the American practitioner all needed assistance in the care of his curable cases and the disposal of the others.

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*ANTI-TOXINE IMMUNIZATION.

PERRY G. GOLDSMITH, M.D., C.M.
Late Resident Surgeon Hospital for Sick Children, Toronto.

I presume I should offer an apology for having brought this subject to the notice of medical men, since it is one about which so much has lately been written, yet regarding which so much doubt apparently exists.

Medical journals have been publishing observations relating to the effect of the hypodermic administration of anti-toxine in the patient after he has contracted diphtheria, but seldom do we read much regarding its action on the individual exposed to contagion, yet at the time of the administration of the serum manifesting no clinical symptoms of the disease.

I shall endeavor to give a few notes regarding an outbreak of diphtheria in the wards of the Hospital for Sick Children, Toronto, the means adopted to prevent the spread of the disease, and a table showing the effect of the injection of anti-toxine in different parts of the body, on the temperature, pulse and respiration.

The Hospital for Sick Children does not admit to its wards patients suffering from any infectious disease, and when any such disease shows signs of development (which is an almost unavoidable occurrence in a large hospital for children), the patient so affected is immediately removed to a small isolated ward, known as a "suspect" ward. Then supposing the symptoms be those of diphtheria, a swab taken from the throat is ex-

*Read before the District Meeting Bay of Quinte Medical Association.

amined bacteriologically, and should this examination show the Klebs Lœffler bacillus, the patient is at once transferred to the infectious department, no matter what the clinical symptoms may be. Prof. Shuttleworth, bacteriologist to the Health Department for the City of Toronto, conducted the bacteriological examinations, and no case, no matter how characteristic the throat may have appeared, was pronounced diphtheria until the Klebs Lœffler bacillus was found in the throat.

On December 18th, 1896, a boy of 10 years, in the boys' surgical ward, complained of his throat being sore. He was at once isolated, and a swab from the throat sent for bacteriological examination. Next day the disease was pronounced diphtheria, so the patient was at once removed, covered by a carbolized sheet, to the infectious department and there attended by separate nurses, and by a physician who did not attend patients in any of the other wards. Next morning, Dec. 19th, three more patients in the same ward complained of their throats being sore. These were treated in an exactly similar manner, and, subsequently, were removed to the infectious department, the disease having been pronounced diphtheria. A halt now seemed to have occurred in the spread of the disease; but on Dec. 27th another case of sore throat developed, which was managed as were the previous cases.

At this time, there having been five cases from one ward, it was reasonable to suppose that there existed some diphtheria poison in the ward, so all the patients from this ward were transferred to another ward and kept practically isolated from the remainder of the hospital. On December 28th, anti-toxine (P. D. & Co.) was injected, 250 units in some cases and 500 units in others. In the girls' surgical ward all the patients were injected with the same dose, as there had been a good deal of communication with the infected ward.

The patients of the boys' surgical ward, which was situated as far away as possible from the other children, were carefully examined night and morning with a head mirror and strong light, to notice any appearance of congestion of the throats. No marked congestion was apparent in any; but on the advice of Dr. Sheard, Medical Health Officer, a swab was taken from each throat and bacteriologically examined. The next day two cases were pronounced diphtheria, though no clinical signs whatever manifested themselves at the time the swab was taken. On examination now, however, marked congestion of the fauces was present. These two boys were immediately transferred to the infectious ward, for though their throats had no membrane, nor did they appear to be suffering from symptoms of diphtheria, they could readily communicate the disease to others whose resisting powers might be so lowered as to be unable to successfully combat the rapid development of the disease.

On January 9th, 1897, we had the disease occurring in the girls' surgical ward, the patients of which were injected with anti-toxine, 250 units in some and 500 in others, on Dec. 28th, 1896. A little girl here complained of her throat being sore, and on examination the throat was found markedly congested, with the right tonsil covered with a thick greyish membrane. She was at once isolated and a swab taken, which was pronounced diphtheritic the next day. On the 10th two more cases occurred,

another on the 12th, and still another on the 15th. Here, too, I think we are justified in saying that the disease had obtained a foothold.

Anti-toxine immunization is, I understand, supposed to last from 14 to 25 days, but in this instance 6 or 7, and in a few others, 8 and 9 days elapsed between the injection of the serum and the development of the disease. From this I would argue that either anti-toxine is of doubtful benefit as an immunizing agent, or the dose given was too small. The latter, I think, the more probable conclusion.

Now a serious state of affairs was present. Here were about 100 sick children, the majority of whom were surgical cases, grouped under one roof and among whom, some had diphtheria. Should the disease spread in its usual manner, the result might be terrible. The question again arose, will anti-toxine protect those not yet affected? From the previous experience one would be inclined to say no. However, it was decided to use it again, but *in increased doses.* So by order of the visiting staff I began the injection of serum in 35 patients who were more especially exposed to the contagion, and it occurred to me that some interesting matter might be found in a table showing the effect of the anti-toxine in the temperature, pulse, and respiration, so I append it below.

On January 13th, p.m., I injected serum into seventeen patients, using P. D. & Co.'s anti-toxine and in doses of 1,000 units. On the 14th I concluded, having injected in all thirty-four patients.

Now, the last case of diphtheria occurred on the 15th January, 1897, in a throat the swab of which was taken previous to immunization on the 14th. Since this case occurred there had not been a single case of diphtheria, though every throat was examined morning and evening and every congested one bacteriologically. From this it seems reasonable to give the credit to one of two things—injection of 1,000 units of anti-toxine, or prompt isolation. Local applications were not used, so no credit can be assigned to them.

I am not correct in stating that all the patients had 1000 units, as one little girl, 1½ years of age, suffering from suppurating tubercular cervical glands, was given 500 units, as I was somewhat timid about using a larger dose, yet, unthinkingly, I gave a boy of 2½ years suffering from ectropia vesicæ 1,000 units without any grave results, though he was in a far lower state of health than the previous case.

Deductions from foregoing statements:

1. 250 units is not enough for immunization purposes.

2. 1,000 units is a fairly reliable immunizing dose, and not a dangerous one.

3. Age and physical state of the patient do not require proportionately small doses.

4. Whenever practicable, anti-toxine in doses of 1,000 units should be used for purposes of immunization.

Method of making the injection:

I arranged the patients in groups, injecting a number in the thigh, a number in the pectoral region, others in the loin, and still others in the abdomen. The spot for injection having been selected, the area immediately around was thoroughly scrubbed with 1-20 ac. carbolic, and a com-

press of 1-40 carbolic, left on for 4-5 minutes. When the injection was to be made the compress was removed and the area again washed, but with boracic solution (1-20) and sterilized water, in order that the strong antiseptic might exert no deleterious action on the serum. I used a small aspirating syringe, which was very carefully sterilized; the bulb containing the serum was carefully washed off with 1-20 carbolic, and my own hands were surgically clean.

Means taken to prevent the spread of the disease other than anti-toxine immunization:

1. Complete isolation of each ward. 2. Daily examination of throats and immediate removal of suspected cases. In this way we were able to note any change in the condition of each child's throat and isolate the infected ones even before the appearance of the membrane. 3. Isolation of nurses in infected and suspected wards. 4. Gowns and rubber caps to completely cover the body were worn by the nurses in order that they would not carry the disease while off duty. 5. Separate spoons were used as tongue depressors in examining the throats. Each spoon was immediately afterwards placed in a 1-20 solution of carbolic, and subsequently boiled. Had the same tongue depressor been used in all cases it would have been impossible to be certain that the it was not a means of conveying the disease unless it had been soaked in a 1-20 solution of carbolic for at least 20 minutes. 6. All the soiled linen in the infected and suspected wards was rinsed in a strong solution of carbolic before being sent to the laundry, where it was immediately boiled, thereby preventing as far as possible this linen infecting that from other wards. 7. Visitors were refused admission to the hospital. 8. New patients were refused admittance until danger was over. 9. Operations were for a time suspended.

Observations on patients at the time of injection:

1. The absorption of the serum was quickest in the pectoral region, next in the abdominal region, still slower in the thigh, and rather prolonged in the lumbar region.

2. Pain was not marked on the insertion of the needle. Little pain will be caused if a sharp needle is used and rapidly it penetrates the skin. Comparing what pain there was, I think most was experienced by those who had the injection made in the thigh. The most pain was during the discharge of the serum. In the pectoral and abdominal regions this was much less than in the thigh and lumbar regions. I noticed that when the pain was most intense during the discharge of the serum by gently withdrawing the needle a little and changing the direction of the stream much less complaint would follow.

3. Erythema was noticed in three cases. Two cases were very marked and these were on thigh injections, while the third, which was scarcely noticeable, occurred in one in which the serum was inserted in the pectoral region.

4. In the pectoral region the injection is made much less painful by injecting a part subcutaneously, and gently pushing the needle on into the muscle and there completing the injection.

Observations on patients following injection:

Case No. 1.—Age 16, Jan. 13th, p.m. Injected on outer side of left thigh. Within half an hour after the injection a red area, with raised edges and very hot and painful, was present at the seat of injection. It resembled erysipelas very much, and caused me not a little uneasiness. Ice poultices were applied. These speedily relieved the pain, but in the next few hours this thick, raised area gave way to a number of small wheals greatly resembling hives. These gave no small amount of itchy sensation.

Jan. 14th.—Thigh painful; pain more severe than yesterday; redness diffused, though not markedly raised. Boracic poultices were now applied and frequently changed.

Jan. 15th.—Papules present, pain less, swelling decreased.

Jan. 16th.—Papules less in number; no pain or tenderness complained of whatever.

Jan. 17th.—Thigh apparently normal.

Case No. 4.—Patient next day after the injection was covered with a red, raised eruption so much resembling hives that the little chap said, "Doctor, I have got the hives during the night." The eruption began on the ribs, apparently followed the intercostal nerve, and quickly spread to the rest of the body, the face being markedly affected.

As he complained of the itchiness of the rash, I prescribed a mixture of menthol and carbolic acid to be used externally, which speedily allayed the irritation, while the bowels were freely opened with salines, and a mixture of pot. cit., spts., æth. nit., and syr. rhei. was used internally. This rash left the face and limbs almost as quickly as it appeared; the chest, however, was not free for some days later. In this case there was no eruption whatever at the seat of the injection.

Case No. 15.—Age 13. Injected in pectoral region. Within twelve hours after the injection a number of small red papules appeared on the foot and leg. Patient said she had hives. These, however, did not spread, and disappeared without treatment within twelve hours.

The detailed tabulated statement of the result of the injection is too prolix for publication, but the essence of it is given in the following table, which should be interesting, as showing how little systematic effect the serum had upon a series of children in poor health, suffering at the time of the injection from various diseases:

Region.	Number of Injections.	Temperature			Pulse.			Respiration.			Remarks.
		Increase in.	Decrease in.	Not affected.	Increase	Decrease	Not affected.	Increase	Decrease	Not affected.	
Thigh.....	9	7	2	0	4	5	0	4	5	0	
Pectoral ..	10	7	1	2	6	2	2	8	0	2	In one, marked decrease of pulse from 114 to 92.
Abdominal	8	7	0	1	3	4	1	4	1	3	Temp. increase was only a fraction of a point in all but one, which was increased one point.
Lumbar ..	7	4	1	2	4	3	0	1	2	4	In one, pulse increase from 115 to 162. Resp. increased 32 to 42.
Total.....	34	25	4	5	17	14	3	17	8	9	

In conclusion, let me say that though some of my deductions may not depend altogether on the data preceding, and some of my conclusions may not have been correctly taken; yet I hope I have added interesting matter to an already well discussed subject, and induced in others a desire for more accurate observation. If so, the object of my paper will have been accomplished.

A vegetable foreign body in the ear can be reduced in size before removal by instilling a few drops of glycerine or of alcohol and water.

IODIDE OF POTASSIUM OR IODIDE OF SODIUM.—According to Briquet *(Rév. Internationale Médecine et de Chirurgie)*, the sodium iodide is preferable to potassium iodide in all maladies of the respiratory tract and for all rheumatic pains *(Therap. Gaz.)* The potassium salt is badly tolerated in many instances of hepatic disease, but is undeniably good in these cases. He has found that where the patients do not tolerate iodide of potassium well, the employment of iodide of sodium first prepares them for the potassium salt. He has also been able to get the effect of the iodine in many patients by the use of the sodium salt when the potassium was contraindicated because of its depressant effect.

NERVOUS DISEASES OF SYPHILITIC ORIGIN.—Collins (*Post Graduate*) tabulates cases of tabes dorsalis and other diseases of the nervous system considered to be of syphilitic origin. The conclusions he arrives at from the study of the case-books are as follows:

1. That exudative and degenerative diseases of the nervous system, due to syphilis, are most liable to show themselves at the end of the third and the beginning of the fourth decade of life.

2. Thorough and prolonged administration of antisyphilitic remedies during the activity of the virus does not seem materially to prolong this time limit.

3. That active and prolonged antisyphilitic treatment does not seem to prevent the development of such diseases as locomotor ataxia and general paresis. And, further, that the cases in which syphilis is confessed, and in which the treatment has been most desultory and incomplete, are not more liable to the earlier development of, or to the severe manifestations of, either of these diseases than those cases in which the treatment has been all it should be.

4. That the administration of antisyphilitic remedies in the most approved way does not fulfil the requirement of cure, and that syphilis is often an incurable disease.

SANMETTO IN BRIGHT'S DISEASE.—Charles F. Reiff, M.D., of Fremont, O., writing, says: "I prescribed Sanmetto in a case of advanced Bright's disease. The patient became more comfortable, and since then has used several bottles of Sanmetto. In my opinion Sanmetto is the most efficient remedy for diseases of the genito-urinary organs, and I shall continue to prescribe the remedy."

OVARIOTOMY.

OPERATING UNDER DIFFICULTIES—RECOVERY.

BY ALEX. FORIN, M.D., ROSSLAND, B.C.

In the following account of a laparotomy there is nothing exceptional to report, but in the house and surroundings as seen in the illustration.

On the 15th of last April I saw the patient for the first time at her home about two miles out of Rossland. I learned that she had been under the care of Dr. H., who advised that she be taken to Spokane, some 150 miles distant, for operation. The patient was suffering severely from pain in the right pelvis. Upon examination I found a tumor in the region of the right tube; but the examination was not satisfactory on account of the tenderness of the parts internally, and a large, raw surface externally, the result of a blister that had been applied some days before. From the meagre examination I diagnosed ectopic gestation. The symptoms experienced by the patient substantiated such a diagnosis. Then, again, for about two weeks before and at my first visit, she had a bloody discharge from the uterus of a dark, shreddy and malodorous nature, also pointing to that condition. Consequently, I advised operation as soon as convenient. Sunday, the 18th April, was the time chosen. There was not much choice between removing her to Rossland, where we have no suitable place for aseptic work, or attempting the operation at her own home, which was a two-roomed slab shack, one room used as a sleeping-room, the other used as sleeping, kitchen, and dining-room combined; but finally the latter was selected. I told the husband that I wanted him to procure a new outfit for her bed, to be put in place during the operation, as the discharge that had been present for the previous two weeks had contaminated the bed and rendered it unsafe for the patient after so serious an operation. These instructions were not carried out; but this I did not find out until I put the patient back in her bed after the operation—there was not even clean sheets to put next her.

Technique. The patient was given a bath the night before—the abdomen scrubbed with green soap and warm water, then with alcohol, followed by bi-chloride solution 1-1,000. A poultice of green soap and olive oil was then put on the abdomen where it remained until the patient was on the operating table. The bowels were moved by cathartics and enemata; the bladder emptied by catheter. As for the dressings, I had them all sterilized the day before at my home; the gauze, sponges, pads, etc., were rolled in cotton and sterilized in a Boeckman (St. Paul) sterilizer for two hours, afterwards put in stout paper bags and tied securely; my gowns were treated in the same manner; the towels used were kept clean by putting in a pillow-case before being put in the sterilizer, and taken out as wanted for use. The sheets used on the table were also sterilized. My Kelly pad was washed in bi-chloride 1-500.

The instruments were boiled with the silk and silkworm gut in a soda solution for half an hour before operating.

I had plenty of boiled water at a proper temperature, and for preparation of our hands I procured five graniteware wash-basins. These were boiled before using. In one I had hot water with green soap on the side, another contained solution of permanganate of potash, another saturated solution of oxalic acid, in the fourth 1-1,000 bi-chloride solution, and in another was plain sterilized water to finish up with, a scrubbing brush in each washdish except the last.

After the patient was put on the table I cleaned the vagina preparatory to a curettage of uterus on account of the foul discharge, but found nothing of any consequence; I packed the cavity with iodoform gauze and then proceeded to the major operation, rendered necessary by the condition, verified by a further examination under the anæsthetic. Dr.

"SHACK" WHERE OVARIOTOMY WAS PERFORMED SUCCESSFULLY.

Kenning prepared the patient's abdomen by scrubbing, shaving, and cleansing with green soap, ether, bi-chloride solution and plain water. After making incision in the median line I had the patient placed in the Trendelenburg position; with difficulty I broke up the adhesions, during which I ruptured a cyst of the ovary, holding about a quart of fluid. I got the right ovary and tube out, and tying with silk as close to the uterus as I could with a quilted suture, three knots, cut off the tube, holding the pedicle with ligatures to see that there was no hemorrhage, finally cutting off the ligatures and dropping the stump into the cavity; I removed the gauze pads put in to hold the bowels back, lowered patient and douched with plain sterilized water; the normal saline solution had not been prepared as ordered the day before. The peritoneum I closed with separate continuous cat-gut suture; for the fascia and external

parts I used silk-worm gut taken all with one row of interrupted sutures, dusted with boracic acid and iodoform 6 to 1, then pad of iodoform gauze, plain gauze, absorbent cotton and a bandage, all having been previously sterilized; a perineal band to keep dressings in place. The patient was returned to bed, which, as before stated, was not in a very suitable condition to ensure best results. The specimen removed was now casually examined, and I found the wall of the tube much thickened and distended with a blood clot about the size of a walnut, but there was nothing further to corroborate my diagnosis of ectopic pregnancy.

The room in which the operation was done was 10·14, a kitchen-stove in one corner, and the bed, that was in another, was removed. While the patient was being anæsthetised a sheet was tacked to rafters to prevent dust or dirt from falling on patient during the operation, and to give better light. The operation lasted about one hour. The patient's pulse did not rise higher than 90, or temperature more than 99° F. until the 8th day, when a stitch abscess made itself manifest. I removed the dressings and stitches on the 9th day and found the wound perfectly healed; an abscess was present on the right side, caused, in my opinion, by passing the ligature through parts involved by the blister, that did not show until later, when I found the epidermis peeling off; the abscess readily healed, evacuating through the stitch-hole, and although we do not crave such complications I look upon them as a benefit, in that the cicatrix is rendered stronger thereby, and there is less danger of ventral hernia. The bowels moved on the third day under mag. sulph. in drachm doses and glycerine and water enemata. The patient made an excellent recovery, and two weeks after operation was sitting up feeling well. Dr. McKenzie gave the anæsthetic (ether), and Dr. Stevenson, of Trenton, Ont., was present as a visitor. As stated before, Dr. Kenning was my assistant, and my brother, a barrister by profession, handled the instruments for me, as I had no glass-covered stand to put them on, and I could depend on him to follow my directions strictly in preparing hands and not touching anything unclean while the work was being done. The nurse was a neighbor who had had some experience in Portland, Oregon, but is not a trained nurse.

I hope some day to have suitable quarters for such work up here in the mountains.

ERYSIPELAS.—Nabugnow has cured 200 cases of erysipelas with ichthyol applications first recommended by Nussbaum. The ointment is bound on with a roller bandage, or in case of facial erysipelas is held in place by a mask. The following is Nabugnow's formula:

℞ Ichthyol.....10.0 to 20.0
Petrolati..... 5.0
Lanolini.....15.0
M. Ft. Ungt.—*Wratschebinja Sapiski, 1896, 2.*

SURGERY.

IN CHARGE OF

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INTESTINAL ANASTOMOSIS BY THE MURPHY BUTTON.

BY JAMES H. DUNN, M.D.,

Professor of Genito-Urinary and Clinical Surgery, University of Minnesota, Minneapolis, Minn.

About 2 p.m., January 1, 1896, Sister S., a nurse of St. Mary's Hospital, aged twenty-five, was taken suddenly, while lifting, with a severe pain in her right groin. Having experienced similar transient attacks twice before, she went to bed, applied hot applications, and awaited my regular round before calling medical aid. On my arrival at 10 a.m. on the second, I found her suffering from a strangulated femoral hernia. After an hour's delay, at the patient's request, operation under chloroform narcosis was undertaken. The pain and distress had evidently been pretty severe during the twenty-one hours of strangulation, but there had been little vomiting, and the incarceration was so brief that I was taken by surprise, on opening the sac, at finding three inches of small intestine, its only contents, apparently gangrenous. The opening was enlarged sufficiently to relieve all constriction, the loop drawn further down, warm, moist compresses applied for twenty minutes, when it became perfectly evident that the loop of intestine was necrotic, and that a

resection of a trifle over three inches of small intestine must be resorted to. The segment was cut out with scissors between the fingers of an assistant, and an end-to-end anastomosis with a Murphy button readily established in about ten minutes. The intestine was then returned, the deep parts closed with fine silver-wire buried sutures, and the skin by a continuous subcuticular silkworm gut suture. The patient made a pefect recovery, without vomiting, pain, febrile reaction or other disturbance. The button was passed on the eleventh day—the earliest that I have observed in my cases. The subcutaneous stitch was withdrawn on the fourteenth day. She kept the bed for four weeks. when she resumed her duties as nurse, and up to date, thirteen months, has been in perfect health, without recurrence of the hernia, or any disturbance of the gastro-intestinal tract. The buried wire sutures have caused no irritation; though in one or two other instances among many cases in which I have used them they have been the cause of slight discomfort at times. My previous experience with the button is as follows:

No.	DATE.	NAME.	AGE	OPERATION.	BUTTON PASSED	REMARKS.
1	Dec., '93	Mrs. M.	37	Cholecystenterostomy.	18th day	Recovery; was well when last heard from, 1½ years subsequently.
2	June, '94	Mrs. E.	52	Do.	16th day	Recovery; health good to date.
3	Aug., '95	Mr. J.	45	Entero-colostomy for carcinoma of caput coli.	15th day	Decidedly relieved for several months; was still living but failing seven months after operation.
4	Oct., '94	Mr. D.	46	Gastro-enterostomy; carcinoma ventriculi.	14th day	Relieved of pyloric obstruction; died after three months, result of autopsy, see figure.
5	Nov., '94	Mr. F.	57	Gastro-enterostomy for carcinoma ventriculi.	13th day	Relieved of obstructive symptoms; died from dissemination of the growth nine months later. Case reported to *N. W. Lancet*, June 15th, '95.
6	Oct., '95	Male	30	Resection as matter of form, and remainder of small intestine fixed into side of colon.		No History. Entered City Hospital with enormous irreducible scrotal hernia; apparently moribund condition; seven feet of small intestine gangrenous. Result: died in four hours.

That is to say, I have had occasion to use this device in seven operations, viz.: two cholecystenterostomies, two gastroenterostomies, one end-to-end anastomosis of small intestine, one entero-colostomy, and one anastomosis of end of resected ilium to the side of the ascending colon. Excluding the latter case, in which no treatment could have hoped to avail, the button has served me with the utmost satisfaction, insomuch that it seems difficult to believe that any other method could have given in my hands so good results.

As a rule, I have little confidence in machine-made surgery. Of the innumerable mechanisms devised for performing stated operations or definite steps of surgical procedures, few have stood the test of general practical experience, and it may doubtless be affirmed that the broader the mind and experience of a surgeon, the less his inclination to rely

upon complicated apparatus, and the greater his trust in knowledge and skill applied with simple agents. It is not easy to recall an instance, save in an intestinal anastomosis, where knife, scissors and needle may do the work, in which one would ordinarily prefer to rely upon a mechanism for the performance of the most critical step of the operation. However, in these operations the well recognized desiderata are so exacting as to well-nigh defy manual deftness, and incline the greatest masters of surgical technique to seek aid in various mechanisms, in which the Murphy button has appeared to me the most generally useful in theory and practice yet devised.

After some experience with the various sutures, plates and the button, I have to conclude:

1. No other method of anastomosis can compare in rapidity and ease with that by the button. None requires so little destructive handling of the viscera, none so conserves asepsis in handling an open intestine.

2. A good button applied with skill is more trustworthy against leak and slip than the stitching of any surgeon, however skilful.

3. On its separation (which appears to be pretty uniform at about ten or twelve days), no foreign substance is left in the tissues, and while present it does not act as a septic seaton to convey infection into the tissues, as deep sutures must do.

4. The scar is but a fine line scarcely discoverable on the peritoneal surface, and with but a minimum of connective tissue. The opening, a trifle larger than the button, presents every guarantee possible to any reunion against contraction, viz.: a rapid, asceptic and complete healing, which cannot lead to progressive contraction unless disease subsequently attacks the scar. It is a ragged, delayed, septic wound which leads to cicatricial contraction. There seem to be many objections still urged against the button, most of them theoretical rather than practical. Any one who has used or even seen the button used, must admit the wonderful rapidity and ease of executing these operations by its use. It is difficult to see how any mechanical mind can doubt its greater accuracy of coaptation. That its work is more liable to progressive contraction than any other method of reunion whatsoever is disproven by both experience and theoretical deduction from known pathological principles.

Of all the objections which have come to my knowledge, but two would appear worthy of much credence, viz.: 1. In a few cases, especially of gastro-enterotomy, the button has failed to pass. Under ordinary circumstances, when the opening is at the most dependent part of the larger viscus, this accident must be rare. As already observed, the button has been promptly recovered in each of my cases; and a large experience of the profession in general has amply demonstrated that under ordinary conditions no apprehension need be exercised on this score. Under conditions which might excite a fear of the button falling into a cul-de-sac powerless to expel it, further modifications in the operative technique will, doubtless, prevent this accident. Dr. W. J. Mayo, of Rochester, Minn., has suggested attaching a thread of considerable length to the button and carrying it into the distal portion of the intestinal tract, as a "hold" for the peristaltic force of the tract. The suggestion

seems sensible, and may prove useful in certain gastro and cholecyst enterotomies, in which a powerless pocket awaits the loosened button, should it drop off on the wrong side. 2. Some have feared that the small opening in and the weight of the button might lead to acute obstruction. Certainly experience has shown this to be more theoretical than practical. Obstructions after abdominal operations, from one cause or another, occasionally occur; but they have not been especially frequent after the button.

In short, if I were under the unpleasant necessity of having to undergo an anastomotic operation on my own primæ viæ, I would doubly prefer to trust to the risks of the button than those of any suture or other device yet discovered in the hands of any operator.

PNEUMONOTOMY.

From an article published in the *British Medical Journal* we learn that Dr. Quincke has tabulated and analyzed fifty-four cases of pulmonary abscess treated by surgical operation. These cases, seventeen of which were treated by the author, are arranged in three groups: the first of acute abscesses, both simple and gangrenous; the second of chronic abscess and putrid bronchiectasis; and the last of putrid suppuration caused by a foreign body in the lung. In a large proportion of the fifty-four cases (eighty-three per cent.) the inferior lobe of the lung was the seat of the disease. Of the total number of patients, twenty recovered and twenty died; in the remaining fourteen cases, the surgical treatment either failed altogether or gave but imperfect results. The author makes out from his collection of records that while the mortality from operative interference is almost equal in acute and in chronic cases, the percentage of complete recoveries is higher by about forty-five in the former than in the latter. It is concluded that the operative treatment of acute pulmonary abscess will be attended with complete success in two of every three cases. The prognosis of such treatment in such cases of chronic, and especially putrid, abscess is much less favorable. The author believes, however, that in future better results may be attained by earlier intervention. Surgical treatment, he holds, is indicated in cases of acute abscess which show no tendency to spontaneous healing. The prospects of an operation in such cases are better than those of an expectant treatment. If such suggestion be generally followed chronic pulmonary abscess with secondary bronchiectasis will, it is thought, less frequently be observed. Notwithstanding the less favorable prospects of operation in cases of chronic pulmonary abscess and sacculated bronchiectasis, such treatment is here recommended for these morbid conditions with the view of protecting against acute secondary inflammation the portion of lung still remaining sound. In cases of multiple bronchiectasis, although *a priori* a good result could hardly be expected from surgical operation, still, the author thinks, improvement may be brought about by such treatment. As such a condition constantly threatens fresh and fatal mischief, an operation,

though not clearly indicated, need not be regarded as unjustifiable. In discussing the diagnosis of pulmonary abscess the author regards as important indications the purulent nature of the expectoration and the presence in the discharge of minute portions of broken-down lung tissue. The quantity of expectorated fluid, he points out, affords no sure indication of the size of the cavity. In considering the diagnosis of the seat of a supposed pulmonary abscess, he states that when on general grounds the existence of such a cavity is assumed, and a localized area of dullness exists without any distinct local symptoms of suppuration, this area should be selected as the object of the surgical attack. If not the precise situation of the disease, it will in most instances serve as a guide to the purulent collection. Exploratory aspiration is objected to as a measure of diagnosis. It will not show whether the cavity be a large or a small one, and is a very probable source of danger in cases in which the affected portion of lung is not adherent to the wall of the chest. The author, in concluding his paper, describes his method of treating pulmonary abscesses, which consists in resection of portions of one or more ribs, free exposure of the parietal layer of pleura, and in making with the thermo-cautery a free opening into the cavity after he has assured himself that adhesions exist between the lung and parietal pleura, or by a prolonged application of caustic has artificially established such adhesions. Pleural adhesions at the seat of operations he regards as an imperative condition in pneumonotomy. If there be any doubt as to the existence of such adhesions the surgeon must act upon the assumption that they are absent.—*Med. Record.*

SURGICAL HINTS.

When an operation under chloroform has been finished, pour vinegar upon the mask until it is well saturated, and leave the mask in place. As the vinegar evaporates more should be added. This simple procedure has a marked effect in preventing or modifying the nausea after chloroform anæsthesia. It was first advised by a French surgeon, who says that it acts by the vinegar's forming a non-irritating combination with the chloroform vapor already changed in the lungs.

Phlegmon of the hand is frequently followed by considerable disability, which may become permanent. This is due to the binding together of the soft parts by contracting scar tissue, and the process may go so far as to cause ankylosis and even subluxation of joints. It is possible, in a great measure, to avoid this unwished-for result by insisting upon active and passive motions from the time of the very beginning of the healing process. The frequency of the motions is more important than the force exerted. Pain after the exercises shows that they have been too vigorous. The joints should be moved several minutes at a time, amounting in all to two or three hours in the course of the day. The patient himself can usually carry out this treatment if the dressings are properly arranged. Do not wait till the wounds are healed, or your patient may be irreparably disabled.

Deep, rapidly-increasing pain in an arm or leg, accompanied by a swelling without redness or fluctuation, together with high fever or chills, is the typical picture of acute osteomyelitis. The disease at this stage, which may be a few days or only a few hours from its onset, is indeed one of the emergencies of surgery. The diagnosis must be carefully but fearlessly made and the treatment speedily instituted, for delay may mean death or life-long deformity. No temporizing should be permitted once the diagnosis is clear, but free incision to the bone, with chiseling into its marrow, should be at once performed. You will not find pus as a rule in these early cases, but a periosteum which is easily peeled from the bone and a cortex which bleeds but little. Immediate relief of symptoms will show that you have not struck amiss. The frequency of necrosis of bone would be greatly reduced if these timely operations were more common. Unfortunately, the procrastinating poultice or the icebag too often has its day, and in the meantime local tissue destruction and general sepsis may compromise the case. Remember that any bone may be the seat of acute osteomyelitis, although it is oftenest encountered in the long bones.

SURGICAL ITEMS.

My experience, as well as that of other surgeons accustomed to operate for head injuries, suggests the "bull" that in "*trephining*" for depressed compound comminuted fractures, *never use a trephine.* The instruments usually necessary are a knife, a pair of blunt-pointed scissors, a chisel, a good, sharp, strong Hopkins rongeur, two or three bone forceps with different curves, an elevatorium, two thumb forceps, one "rat-toothed," a half-dozen hemostatic forceps, small and medium-sized curved needles, and a good needle-holder, small and medium silk, silkgut and catgut for sutures and ligatures. The small needles should be previously threaded and ready for instant use.—*Estes.*

A fearful notion has swept over the country that to excise something is *per se* a great and glorious thing, and that to operate is necessarily to be a surgeon. This is, indeed, a very puerile error. There is an old remark that certain physicians see many patients, but few diseases. I fear something similar might be said of recent surgery. Is not this in some measure the natural result of the great, almost exclusive, attention given to operations *per se?* Have we not been largely passing through a kindergarten stage of surgery, in which the struggle has been to teach everybody, by pictures, diagrams and "gifts," the technique of hysterectomy and other "ectomies?"—*J. H. Dunn.*

TREATMENT OF EPILEPSY.—Viewed from the standpoint of a neurologist, the present status of the surgical treatment of epilepsy is formulated as follows (Dr. F. Peterson, *N.Y. Med. Jour.*):

1. In about one per cent. of all cases of epilepsy an injury to the head will be found to be the original cause.

2. In a much larger percentage an old meningeal hæmorrhage, congen-

ital or acquired in infancy, giving rise, in addition to the epilepsy, to various degrees of paralysis, idiocy, or other cerebral symptoms, and presenting, on examination, brain atrophy, sclerosis, and cysts as sequelæ to the primary lesion, will be ascertained to be the cause.

3. In the present state of our knowledge and experience, those cases due to meningeal hæmorrhage should not be operated on at all.

4. In the very small number of cases having injury to the head as the cause, the epileptic habit is so strong, and the changes in the brain are usually so old and deep-seated, that an operation, as a rule, does not cure, and only seldom permanently diminishes, the frequency of the attacks.

5. Of the miscellaneous traumatic cases, where a surgical procedure seems justifiable, and is undertaken, a cure may be reasonably expected in, perhaps, four out of every hundred cases operated upon.

6. The removal of a cicatrix from the cortex supposed to be the epileptogenic nidus, will naturally be followed by the formation of the new cicatrix in the surgical wound, and is scarcely a defensible procedure.

7. The more recent the injury the greater will be the promise of lasting benefit. If a hundred cases of epilepsy could be selected, in which the trauma dated but a few months back, trephining and ablation of the morbid tissues would, doubtless, prove curative in a very large percentage of cases.

TREATMENT OF APPENDICITIS.—McBurney (*Medical News—Br. Med. Jour.*) points out that there is no medical cure for appendicitis, even though some cases recover without operation; and while he considers appendicitis a surgical disease, yet operation may not be necessary in every case. The true cause of this affection is probably a stoppage of the drainage from the appendix to the colon, and preliminary treatment is often worse than useless The opium treatment relieves pain and discomfort, but entirely masks the symptoms at a most important time, for it is in the first twenty-four hours from the beginning of the attack that we can decide not only as to the diagnosis, but as to the probable course and result of the case. If in five or six hours there is no increase in urgency the patient is not in immediate danger if kept at perfect rest in bed; if in twelve hours there is still no increase in the severity of the symptoms the patient should soon begin to improve. On the other hand, if the urgency of the case has steadily increased in twelve hours from the time when the diagnosis was made, an operation will probably be called for. After two attacks a patient is sure to have a third, and each attack renders operation more difficult and dangerous. All the advantages lie with operation between the attacks. In an operation during an acute attack the prognosis is worse. In operating between the attacks it is rarely safe to do so in less than two weeks after an acute attack. McBurney was formerly more willing to operate during the attack than he is now. The chief cause of death is delay of one sort or another. In abscess cases the sooner we operate the better.

MEDICINE.

IN CHARGE OF
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CANCER OF THE RECTUM.

BY B. B. FOSTER, M.D., PORTLAND, MAINE.

My experience with cancer of the rectum has been limited, and therefore, I must content myself with gathering material from others for your consideration, thus to learn your views, and trust all may derive benefit.

Herbert W. Allingham says: "A careful consideration of the experience of other surgeons, together with my own study in hospital and private practice, has left me without any definite opinion as to the cause of cancer of the rectum. Opinions are so different, statistics are so contradictory, either in statement of facts or in arguments therefrom, that it is impossible to state any dogmatic views as to the etiology of cancer in this portion of the body."

Charles B. Kelsey has quite avoided any mention of the cause of rectal cancer except in a general way, and it is fair to presume that his mind is not settled on the subject, as he says: "A cancer of the rectum may and often does begin so insidiously that its existence is not suspected even by the patient until it has made irreparable progress."

This is the condition that is most likely to come to your notice when the disease begins well up in the bowel, beyond the reach of the sphincters, as cancer of this organ when located within the grasp of the sphincter, gives much pain; and the character of the pain is of great assistance in diagnosis.

Joseph M. Mathews, after reporting three cases of rectal cancer, says: "These cases illustrate the fact that the course of the disease is often insidious. They also demonstrate that the well-recognized symptoms ordinarily observed in cancer of the rectum may be absent." He then at some length discusses the cause, saying: "Those who insist that cancer is a constitutional disease with local manifestations might, with a good deal of force in their argument, say that malignant trouble frequently exists in the rectum when traumatism could play but little part."

When speaking of traumatism, it should not be supposed that it is necessary to find a wound of any extent or dimensions. A lesion scarcely perceptible to the naked eye is quite sufficient to admit the micro-organisms which produce tetanus, and a lesion in the rectum of the same insignificance may be the starting-point of cancer.

We have said that a local irritation of malignant growths will excite them to further development. We can also add that local irritation may excite a cancer, thereby being its cause. It is proverbial of the chimney-sweep that he is a special subject for cancer, and yet I imagine that no one would take the position that cancerous patients were habitually chimney-sweeps. It must, therefore, be due to the local irritation that the malignant abrasion was started, and that it increased by said irritation being kept up.

The belief is common that a point of whalebone will set up an irritation which may end in malignancy; and it has become a common practice with physicians, whether they believe it or not, to try and trace the tumor in the woman's breast to the pressure of her corset.

I dare say that there are but few surgeons who are not able to trace cancer in some of their patients to a blow or fall, or to some sort of irritation at a local spot; and how often in cancerous growths embracing the periosteum the disease can be traced to some injury. It is also a recognized principle in surgery that growths of any kind should not be subjected to a continual local irritation. Therefore, apropos of this line of thought, the anatomy of the intestines, taken along with the physiology of defecation, proves the fact that there are three points of retention and accumulation of the fecal mass, namely, the cecum, the sigmoid flexure, and the rectum. The cecum is the starting-point of this mass, from which it is hurried along to the sigmoid flexure, and then dropped into the rectum. If the mass does not pass anti-peristalic movement lifts it back, or much of it at least, into the sigmoid, and there it remains for a time in its dried condition.

Now it can be easily understood that all of the mass, perhaps, does not start on its onward course from the cecum; some of it remaining becomes dried and acts as a local irritant. Then the sigmoid, becoming the receptacle of the mass when refused by the rectum, and the rectum holding a portion of the mass each day, both are irritated thereby.

The natural pathology would be that a congestion of the blood-vessels was started at one of these points, which was followed by an abrasion and inflammation. The fight still wages with pathologists whether it is the appendix vermiformis or the cecum which is responsible for the degree of inflammation, and consequent suppuration, which is so often followed by death; and yet I imagine that there is no one so enthusiastic in his advocacy of the appendix's being responsible for this condition who would not admit that the cecum frequently becomes impacted with feces, which results disastrously.

It will be admitted that the three points named—the rectum, the sigmoid flexure, and the cecum—are favorite seats for cancer.

We have shown how it is possible that an abrasion may be made by these hardened feces, and a continual irritation is kept up by their presence. Therefore I am not willing to admit that cancer cannot be caused in the rectum by trauma as well as in any other part of the body.

That mechanical irritation, either from continued pressure or from a constant rubbing of the part, will produce cell-growth cannot be denied. We have many examples of it in small benign tumors which grow in this

manner. We are all suspicious of warts, and advise the patient not to subject them to a continuous friction. If they are so subjected, we see the evidence of it in rapid cell-growth. The natural follicles of the gut may be by such friction the starting-point of cancer. It is frequently urged, to rebut such evidence as this, that secondary deposits take place from cancer in different organs of the body. I cannot think that this disproves the local origin of cancer any more than to say that we find tubercular disease in the rectum in the man who has a tubercular deposit in his lungs. The lymphatic system is very wonderful, and may be responsible for the migration of the micro-organisms, cells, or what-not which produce the disease. Whatever may be the solution of these knotty problems, the thing of the most moment to us in dealing with growths about the rectum is to distinguish between the malignant and the non-malignant. When this problem is solved we may consider the treatment.

Thus you see that Mathews has only a theory which he has attempted to substantiate by a long discussion; but to my mind there has not been much proven, and the true cause is still to me a hidden mystery.

Van Buren in his lectures makes no definite statement as to the cause of rectal cancer, thus indicating that he was not disposed to be on record as to the cause of the disease.

After presenting to you these few opinions as to the cause of rectal cancer, I am sure you will feel entirely at liberty to indulge in opinions of your own, and have the assurance that they may be as well founded as any. As for myself, up to date, I am non-committal, and such I find to be the condition of a large number.

For the purpose of diagnosis it is important for us to understand some of the leading symptoms of rectal cancer, and on this point I am sorry to say there is not so much definite knowledge as could be wished, for in many cases it is exceedingly difficult to determine the difference between benign and malignant conditions, such as ulcerations, strictures, etc., since there is nothing in the history which the patient gives that is of much value in this direction; yet when we find a patient beyond the age of 35 years complaining of pain with constant irritation of the rectum, accompanied by frequent defection, streaked with pus and blood, which has come on in a short time, and the patient losing flesh, it will be a signal to make a careful physical examination, which, by the way, should be conducted with great care after putting your patient under the influence of an anæsthetic. No doubt most cases may be diagnosticated by the history and by physical examination with the finger alone when one is the possessor of extensive experience and knowledge.

Cancer in this locality is a disease of rapid growth; therefore, when you have a patient complaining that an obstruction has existed for some years, this fact alone goes a long way to prove that the condition is not malignant, and *vice-versa*.

Much may be learned from the general appearance of the patient, but most of all, I am inclined to think, from the digital examination. The experienced observer may derive satisfactory evidence from a very peculiar odor which exists in most cases, and which generally offends the

olfactory nerves to such an extent that they ever afterward retain the impression. In the early stages the hard and more or less distinctly circumscribed new growth which has infiltrated the walls of the bowel is diagnostic. Simple benign growths are likely to be located on or attached by a pedicle to the mucosa; while cancer infiltrates the sub-mucous tissues and has a circumscribed hardness. Cancer also early infects the lymphatics, which is not true of benign growths. Often one may find much difficulty in distinguishing between an advanced case where the rectum is partially occluded by hard masses of disease, and an old case of stricture and ulceration which is not malignant. Syphilitic disease is not infrequently taken for cancer.

There are cases no doubt, in which the microscope is the only means of making the diagnosis, and yet many claim that even this source of information is not at all times reliable.

When we find a soft, friable mass of epithelium located on a hard, infiltrated base which is ulcerated in spots the edges of the ulcers being hard and raised, the diagnosis is easy. Cancer located high up in the rectum or sigmoid flexure, even when causing stricture, is difficult to diagnosticate, and will often escape a very careful observer, and may even end fatally from acute obstruction before the symptoms have been so pronounced as to cause suspicion of its existence. This may depend upon the fact that this portion of the canal is quite moveable, easily displaced and liable to be obstructed by a growth so small that it would give but slight trouble when located lower in the rectum. There appears to be no method to diagnosticate this condition in its early stages except by the fingers, hand and bougie; and here great care should be exercised, for it is an alarmingly easy thing to tear the bowel and receive as your reward a sudden death.—*Journal of Medicine and Science.*

A CASE OF DERMATITIS DUE TO THE X-RAYS.

In the *Bulletin of the Johns Hopkins Hospital* for February, T. C. Gilchrist, M.R.C.S., L.S.A., reports a case of dermatitis which has a sufficient number of interesting points to make it worthy of record. Since the discovery of the X-rays by Röentgen, among the thousands of observations and experiments, both in this country and in Europe, in which hundreds of investigators have exposed various portions of the body, particularly the hands, frequently and for long periods of time, but very few cases have been reported where injurious results have followed. In most cases thus reported lesions of the skin, resembling sunburn, occurred, sometimes accompanied by swelling and usually followed by an exudative eruption, exfoliation of the skin and loss of hair. These cases differed greatly in the proportion of the severity of the trouble to the length of time and frequency of exposure. The skin of the trunk appeared to suffer the most severely, although when the hand was the part affected pain was the most prominent feature. The majority of observers describe a peculiar redness or erythema at first, then swelling of the derma, followed by a deep discoloration of the skin until it becomes quite a dark

brown color. Exfoliation of the pigmented skin followed. In a number of cases vesiculation occurred after the hyperæmia. The most severe effects followed after exposing the same region again to the rays when the lesion had only partially or wholly healed. The lesions on the abdomen and back were, rather curiously, unaccompanied by pain, while severe pain was usually present with the eruptions on the hands.

Many theories have been advanced as to the cause of these lesions. Some have supposed them to be due to frequent and long exposures, others have compared them to severe sunburn, and Tesla believes that they are due to the ozone generated and coming in contact with the skin, but no one of these theories holds ground.

The particular case referred to is reported as follows:

"The patient is a healthy looking man, thirty-two years of age, who came to me November 18, 1896, with the following history: During the first week in September he exposed his right hand, wrist and lower portion of the forearm to the X-rays while exhibiting an apparatus, each exposure lasting two or three minutes. No bad results followed, but on October 1st he came to Baltimore and resumed the use of the X-rays for the same purposes. After he had exposed his hand for three weeks, for four hours daily, he noticed that the skin of the back of the hand, wrist and forearm began to turn very red and became 'puffed up,' although he suffered no pain. The swelling first occurred on the back of the hand from the knuckles to the wrist, then 'inflammation set in' and he was compelled to stop his demonstrations. From October 21st the hand, wrist and lower fourth of the forearm gradually became more inflamed and swollen, and the lesions spread to the fingers. The affected area ached and throbbed so much that he frequently could not sleep at night; there were also shooting pains which gradually increased in intensity, and extended along the ulnar side. These symptoms continued for a week, when the patient consulted Professor Chambers, of Baltimore, who advised him to bathe the hand frequently in hot water, and ordered bromides internally with benefit. The symptoms were much relieved and the swelling had gone down considerably in two weeks' time. Three weeks after he had first sought medical advice he consulted me about the diseased condition of the skin.

"The right hand, on its dorsal surface, presented a deeply pigmented condition. The skin over the fingers, hand and wrist was of a very dark brown color, and part of it was already exfoliated and was dry, infiltrated and wrinkled. The patient said that it was more of a greenish hue at the end of the first week after it became affected. In places near the lateral margins of the hand a slightly vesicular appearance was presented. They were not true vesicles, but were due to the loosening of the surface of the epidermis, and contained only air. The pigmented skin could very easily be peeled off without any pain, leaving a dull, dry, reddish surface beneath. On comparing the two hands they were found to be practically of the same temperature. The palmar surface was dry and paler than that of the normal hand, but the palmar surface of the fingers appeared swollen. Ten days later the exfoliated epidermis had all been removed, and the skin presented a glossy appearance, and over the fingers seemed to be tighter

than on the healthy hand. On careful examination the patient complained of rather severe pain when the first phalanx of the right index finger was grasped, and it was then noticed that this bone was distinctly thickened, especially as compared with the corresponding phalanx of the other hand. The first and second phalanges of all the fingers were found to be thickened, but the increase in size was most marked in the first phalanges of the index and second fingers. Further examination of the other bones of the hand revealed a very painful spot over the wrist joint. The metacarpals were also tender on pressure, and the head of the second metacarpal was enlarged. The hairs were found to be less numerous on the affected hand, but they may have been removed in tearing off the exfoliating epidermis.

"All movements were quite difficult of accomplishment and very painful. When the patient first consulted me voluntary movements of both fingers and hand were abolished, except of the little finger, which could be slightly flexed. Wrist movements were also very limited in extent and caused much pain. The thumb and fingers could scarcely be apposed. The patient could not pick up a lead pencil or penholder, and could grasp with but slight force; if he could get his finger or thumb under an object he could pick it up. He complained of the joints being very stiff. Sensation was very much impaired before exfoliation occurred, and even after that it was much diminished as compared with the normal hand. The sense of touch on the palmar surface was also markedly decreased.

"Two portions of skin were excised for histological purposes on the first day. One portion was taken from the dorsal surface of the third finger and the other from the lateral margin of the hand over the base of the metacarpal of the little finger. Neither stained nor unstained sections demonstrated the presence of any foreign particles, and only showed chronic inflammatory changes. The horny layer was thickened and half of it was partially detached. A large number of brown pigment granules were found in the exfoliating portion. The mucous layer was not thickened, but it was more pigmented than normal. In the corium the vessels were dilated and the pigment cells of the papillæ were almost as numerous as are usually found in a section of negro skin.

"The photographs have revealed what has never been observed before, viz., a distinct osteoplastic periostitis, and probably an osteitis, particularly of the first and second rows of phalanges of the index and second fingers, also of the heads of metacarpal bones of the same fingers, and, judging from the symptoms, even of some of the carpal bones. This, then, accounts for the severe symptoms, the aching, throbbing and shooting pains which prevented sleep. The density of these bones has also been increased, showing that even bone tissue has been affected. As the result of these observations it proves that the X-rays are even more powerful than have been generally thought; that the deleterious effects can in some cases be quite serious, and that the cutaneous manifestations are not the most severe of the lesions but those of the deeper tissues, and particularly of the periosteum and bones, being more severe.

"I do not think that the possibility of injury ought to deter any from

using these wonderful rays in surgical work, because only a few have been affected out of thousands who have been exposed to them. By keeping, as Thompson says, some distance away from the rays, injurious effects will hardly follow their use, particularly when the exposure is for a short time."

INGUINAL ORCHECTOMY.

A method of orchectomy which I have called the inguinal to distinguish from the scrotal is based on the principle that all interference with the scrotal tissues during the operation is dangerous and unnecessary. An incision of from one inch to one and a half inches long, and slightly curved with its concavity looking downwards and outwards, is made over the external abdominal ring in the line of the spermatic cord. The cord is exposed and isolated. It is then seized with the fingers of the left hand and pulled gently upwards. With a blunt dissector the subcutaneous tissue is freed, first from the lower part of the cord, and then from the testicle as it appears in the wound, the left hand keeping up gentle traction on the cord while this is being done. The testicle is delivered through the small incision and the cord dealt with in the usual manner. Afterwards the scrotum is invaginated through the wound in order to inspect the bed of the testicle for bleeding points, which in the two cases I have operated on were conspicuous by their absence. The incision is then closed by a continuous horsehair suture.

This method has many advantages over the scrotal method of castration. The short incision passes through the firm cellular tissue over the external ring, and the testicle is shelled out without any disturbance of the loose vascular tissue of the scrotum. The slightness of the vascular connection between the testicle and its bed is shown by the frequency with which it appears in the wound during the operation for the cure of inguinal hernia. Hence the risk of hemorrhage into the tissues after castration is done away with. Owing to the absence of dartos the edges of the incision can be accurately brought together, and in forty-eight hours the risk of infection from without is past. The delayed union so common in scrotal incisions is avoided. It may be well to include the scrotum in the dressing, pulling it upwards and forwards. Should it, however, slip down on the perineum, the incision will still be well covered by the dressing. If it is thought preferable a sealed dressing may be applied immediately after the operation. Any sealed dressing applied to the scrotum itself would certainly become loosened by the dartos within a few hours, but on the smooth skin over the external ring it may be relied on to keep firm and close. Should any dribbling of urine occur, the incision is well above the end of the penis instead of being immediately underneath it, and is thus much less likely to get wet. Finally, the time of the operation is shortened, because there is less trouble with bleeding and the incision can be more quickly sewn up. In the two cases in which I have had the opportunity of trying this method healing took place by primary union without rise of temperature or other complication. The long scrotal incision appears to me to be a relic of the

time when surgeons recognized that their wounds must of necessity become foul cess-pools, to be drained and cleared out on ordinary sanitary principles. A scrotal incision is only necessary when the testicle is much enlarged, or adherent to the skin.—W. S. HANDLEY, M.B., in *Lancet.*

DIABETES IN A YOUNG CHILD.

The chief interest in the following case, reported by Mr. Horace Wilson, of Port St. Mary, lies in the extreme youth of the patient. *It exemplifies the advisability of examining the urine in all cases of nocturnal incontinence in private practice* where this examination is not a proceeding of routine, as in hospital work. Mr. Wilson was called to a child aged four years, the son of healthy parents, and the fourth child of a family of six, all of whom were strong and well with the one exception. The patient seemed to be well nourished, bright and intelligent, and made no complaint of feeling badly. His mother, however, complained that he was growing thin and that he had been wetting the bed during the previous two weeks. On examination the bladder was found to be empty and the prepuce slightly excoriated; there was no tendency to phimosis, no pain or tenderness anywhere; the tongue was moist and of good color and the bowels regular. The tincture of belladonna was prescribed in small doses, and directions given to wash the prepuce twice daily with boracic lotion. A week afterwards the child was much paler, appeared more wasted, and was with difficulty aroused to answer questions. He had been vomiting constantly since the previous afternoon and had for the first time wetted his trousers, being apparently unaware of the fact. Close questioning of the parents elicited the facts that he had drank large quantities of water for the five weeks previously, and that "although he had not been well, his appetite seemed to improve." On examining the urine the specific gravity was found to be 1035, and it contained six grains of sugar to the ounce. The total amount passed could not be estimated. On the following day he was pale and emaciated, with cold extremities and small pulse. His pupils reacted to light, but he was quite comatose; his breathing was heavy and labored, and he was making no effort to swallow. The bed beneath him was "floury" with the crystals. He never regained consciousness and succumbed two hours after the physician's last visit.—*Lancet.*

A CASE OF ASPHYXIA DUE TO ETHER ABSORBED FROM THE STOMACH.

Lorot reports in *La Tribune Médicale* of November 25, 1896, the following case:

A girl aged 9½ years was admitted to the Hospital Tenon in a state of asphyxia. The face was pale, the lips blue, and the whole appearance of the patient that of exsanguination. The extremities were cold, the fingertips were also pallid. Auscultation revealed no respiratory sound, no

cardiac bruit, and there was absence of the pulse. It was found on investigation that the patient had taken a large quantity of ether internally.

Artificial respiration was resorted to, and massage of the precardium was tried, with no result. There was an abundant muco-watery secretion in the mouth, and the tongue had been injured by the spasmodic contraction of the jaws. Rhythmical traction of the tongue was resorted to: cold applications were made to the forehead and the neck; flagellations, friction and stimulation of the intercostal nerves were also tried. After about twenty-five minutes a single respiratory movement took place. The respirations then became irregular, the heart's action somewhat violent and tumultuous, the pulse became stronger and extremely rapid; color returned to the skin and heat to the extremities. Whenever the treatment was interrupted, however, the respiration ceased, and the patient returned to a comatose condition. The conjunctiva was without a reflex, the eyes wide open, and the pupil dilated, but slight tonic movement of the left side occurred. Thus there was a unilateral grimace of the face, contraction of the arm and leg on the left side, with tremor; the right side was immovable. These tremors of the left arm ceased on inhalations of ammonia being given. Finally, the patient returned to consciousness, with a gradual passing away of the symptoms that we have named. Lorot believes that the methods of Laborde—namely, the application of rhythmical tractions of the tongue—saved the patient's life.

[ED.: Now that forced bellows inspiration is within the reach of all, we venture the opinion that before long every practitioner will have such apparatus in his armamentarium.]

OINTMENT FOR MUMPS.—

℞ Ichthyol.....45 grains.
Iodide of lead.....45 grains.
Chloride of ammonium.....30 grains.
Lard.....1 ounce.

This ointment is to be applied to the swollen parts three times a day. In some instances vaselin may be used in place of the lard, and sometimes belladonna may be added with advantage.—*Clinical Journal.*

Every pregnant woman should drink at least a quart of water, or its equivalent, daily and should eat freely of fruit. These will tend to keep the excreting organs acting freely, which is so important, during this period of a woman's life. The danger of eclampsia is in direct proportion to the want of activity of these functions and not as has been supposed, to the amount of albumen in the urine.—Dr. E. P. Davis, in *Coll. and Clin. Record.*

NOSE BLEACH.—The *Revue Chirurg.* states that spraying with a 5 per cent. solution of boric acid is an effectual nose bleach.

NERVOUS DISEASES AND ELECTRO-THERAPEUTICS.

IN CHARGE OF
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TESTS FOR VISUAL MALINGERING AND HYSTERICAL BLINDNESS.*

BY EDWARD JACKSON, A.M., M.D.
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We have no test that distinguishes between impairment of vision due to hysteria and that simulated in malingering. It seems clear that hysteria is a true pathologic condition, as real as any pathologic condition that we are called upon to treat; but, because of its peculiar character and its independence of recognizable anatomic changes, it is impossible by any single test to certainly distinguish it from malingering.

There are some symptoms of hysteria, especially such as the alterations in the visual fields, which are of a character not likely to be simulated by the malingerer. But when it comes to symptoms that are likely to be feigned, our tests do not discriminate between the disease hysteria and voluntary feigning. Hence the tests that I am about to refer to generally reveal that the condition present is either hysterical or feigned, but other symptoms and the general aspect and surroundings of the case must be considered before determing which of these is the condition present. Tests of the field of vision may throw important light upon this question, as the hysterical field usually exhibits certain distinct characteristics, while feigned impairment of the visual fields is likely to follow closely one of the common forms of hemianopsia, or to promptly show the fraud by incongruous or impossible symptoms. Further than this I do not purpose to refer to tests for the field of vision, but simply to speak of the tests for acuteness of vision at the center of the field; vision as commonly taken with test letters.

In my experience, feigning most frequently takes the form of exaggeration of an actually existing visual defect; or of ascribing a defect previously existing to some particular cause or accident. It is quite possible that this latter may be done quite honestly, without the slightest intention to deceive, as defective vision in one eye may exist many years without being noticed. To avoid falling into error by accepting as correct a statement that underestimates the acuteness of vision actually present is by no means easy. A large proportion of patients will stop read-

*Read before the Philadelphia County Medical Society, March 24th, 1897.

ing and say they cannot see any more; yet with a little coaxing they can be induced to read one or two additional lines of smaller test-letters. Simple disinclination to make the effort to observe closely prevents them from revealing their true visual acuteness; and when to this is added the desire to make as much of a disability as possible, the obstacle may become insurmountable. However, tact and patience will do much.

One plan for overcoming the reluctance to reveal the full acuteness of vision, is to use a card having several lines of letters too small to be read at the distance at which it is placed. Then giving the claimant the impression that he is expected to see all of these, he will feel gratified to find that he actually cannot do this, and gratitude for this supposed demonstration of a desired impairment of vision may incline him to co-operate heartily in the test, and read the lines that should really be just visible to the normal eye at the given distance. Even the malingerer feels that the truth is the safest thing, if he thinks it will answer his purpose.

A popular impression that is valuable in this connection is that glasses help all kinds of defective sight; and that the exhibition of normal acuteness of vision with a glass will not impair the claim for impairment of vision from disease or injury. By very careful objective determination of the correcting lenses (and for this purpose skiascopy is the only practical method), and the placing of them before the eyes, if vision is at all improved by them, it is very often possible to secure the patient's co-operation to such an extent as to demonstrate his full visual power. This plan has, in my hands, proved very effective in the examination of claimants for pensions. These claimants believe they are entitled to pensions, or at least as much entitled to such gratuities as others who receive them; they have all lost their power of accommodation, and (emmetropia being very rare) they all, without correcting lenses, have imperfect vision. To attempt to ascertain the correcting lenses by the subjective method is simply a waste of time, and a source of vexation and irritation. But if the correcting lens is accurately determined objectively and placed before the eye, the claimant will, almost invariably, co-operate and reveal the full acuteness of vision he possesses. Over and over again I have thus been able to demonstrate vision better than with the Snellen Normal Standard, in those claiming pensions on the ground of visual impairment.

When *blindness of one eye* is feigned, well-known tests readily reveal it. The best of these are the diplopia test and Harlan's test. The placing before the seeing eye of a prism too strong to be "overcome," by displacing the retinal image, causes binocular double vision, if the image is still seen in the normal position by the eye falsely claimed to be blind. This test may be rendered most effective by first holding a prism before the seeing eye in such a way that its edge shall come before the pupil, thus causing monocular diplopia by the formation in the one eye of two images, one from rays passing through the prism, and the other from rays passing beside it. Or, one may take the double prism, and, holding it with the line of junction in front of the pupil, get the same monocular diplopia. Having thus demonstrated to the claimant that he sees double with the seeing eye alone, we proceed to ask about the position of the

images when the prism is held in different directions, and then slip the prism completely in front of the pupil, so that in one eye rays all unite to form a single image, and diplopia remaining becomes positive evidences of binocular vision.

The other standard test, proposed by our fellow-member, Dr. George C. Harlan, consists in placing before the alleged blind eye a plane glass or its correcting lens (the latter often perceptibly improving its vision), and before the "seeing" eye a strong spherical lens, either convex or concave, which will entirely prevent clear vision at the distance of the test-letters. The claimant is told to keep both eyes open and read what he can through the glasses; and commonly he does so, supposing that he does it with his "seeing" eye which has been excluded. This test is particularly valuable because of its simplicity, which allows of its ready explanation before a jury, and because the claimant can be convinced that his fraud is fully detected, by asking him to read the same letters after the hand has covered what he claimed to be his blind eye. More than one suit for damages has thus been brought to an abrupt termination.

Another test for feigned monocular blindness, but of less practical value, may be arranged with cylindric lenses, obliquely placed before the eyes. Viewing through them, a plain rectangular surface appears distorted with either monocular or binocular vision, but the distortion is quite different in the one case from that which occurs in the other, and it is sufficiently characteristic to reveal with certainty whether monocular or binocular vision is implied. This test is more appropriate for cases in which pretended impairment of vision is comparatively slight.

Feigned blindness of both eyes has heretofore been regarded as more difficult to detect than feigned monocular blindness. Thus Dr. de Schweintz ("Diseases of the Eye," Second Edition, p. 488) states: "If a malingerer claims to be blind in both eyes, he can be detected only by placing a careful watch over him." Noyes ("Diseases of the Eye," Second Edition, p. 720) says: "It is difficult to unmask the pretence of total blindness. One must have opportunity to watch the person without his knowledge." Fuchs ("Diseases of the Eye," American Edition, p. 29) suggests observation of the pupillary reflex: "Although there are rare cases in which in the presence of actual blindness the pupillary reflex for light is still retained."[1] Fuchs also mentions the Schmidt-Rimpler method of telling the claimant to look at his own hand, which the blind man does without hesitation, while "a malingerer will perhaps purposely look in the wrong direction." Occasionally the malingerer can be startled into betrayal of the fraud. I once heard Dr. William Osler tell of a young woman who made the round of the London hospitals claiming complete blindness without apparent cause. Being led into the Moorfields Hospital, an assistant suddenly held a live frog before her eyes, and she ran out screaming. Not all ophthalmic hospitals have frog-tanks.

Priestly Smith has recently given us a most perfect method of recognizing feigned blindness, although he has done it in such a modest, matter-of-course way that it has not yet attracted the attention it de-

[1] Harlan has shown that the light reflex is often retained in blind eyes. *Trans. Amer. Ophthalmol Society*, 1896.

serves. In the Ingleby Lectures on "The Mechanism of Binocular Vision, and the Causes of Strabismus."[2] To illustrate the subject of diplopia in connection with strabismus in children, he narrates the following case:

"A few months ago a prisoner awaiting trial for burglary with violence, awoke one morning blind in both eyes, so he said. The prison surgeon had no doubt that he was shamming, but wanted positive evidence one way or the other, and we examined him together. The man declared himself to be quite dark in both eyes, and acted the part of a blind man fairly well, overdoing it a little. The pupils were already under atropin, and could therefore give no evidence as to the light reflex. A lighted candle was placed before him in a dark room. He was not required to "look" at the candle, being nominally blind, but the candle was placed about where he appeared to be looking. A prism was then placed before one eye, its base inwards; instantly the eye moved outwards. The prism was removed, and the eye moved inwards. The man was told that his blindness would certainly disappear as quickly as it came, and he probably understood that the fraud would get him into more trouble if persevered in. His sight was soon restored. Now if this man could have carried his blindness into the dock, a merciful judge and jury would not improbably have felt that a higher tribunal had already visited him with a heavy punishment, or at least that he was incapacitated for further crime, and would have dealt with him very leniently. As a matter of fact, he was a particularly daring and dangerous criminal, and had during a previous imprisonment attempted the life of the prison surgeon. He received a long sentence."

This method is so perfectly simple and reasonable that it seems remarkable that it should not have been thought of before. Doubtless, it would have been sooner brought into use if the feigning of binocular blindness were not comparatively rare. I have tried it a number of times, not on any case of feigned binocular blindness, as none has been encountered, but upon eyes actually blind; and upon those who, understanding the test, attempted to defeat it by not turning the eye before which the prism was placed. It is a test that may be relied on to reveal feigning of binocular blindness in all cases, except those in which along with blindness there is pretended an inability to keep the eyes open, or constant movement of the eyes—nystagmus.

The best prism is generally one of 6° or 8°, held with its base towards the temple. Most persons involuntarily "overcome" such a prism by turning the eye correspondingly towards the nose, to escape diplopia, even in spite of an effort not to do so. It would be possible, of course, for a special case of heterophoria not to show the characteristic movement with this particular prism, but a trial of other prisms, or of the same prism with its base turned in the opposite direction, should reveal this characteristic movement. When the attempt is made to prevent such movement, to ignore the double images, the movement of deviation may be so gradual or so delayed as to escape detection, when the prism is placed before the eye; but on removal of the prism the "recovery" is prompt and characteristic. The same test may be applied for the detec-

[2] *British Medical Journal*, June 20th, 1896.

tion of feigned monocular blindness. The prism held before the seeing eye causes the characteristic movement, but before a blind eye it causes none. It is a test that reveals not merely some light-perception, but the presence of a comparatively definite and clear perception of objects.

When the malingerer feigns not only binocular blindness, but also nystagmus and an inability to open the eyes, he may be placed under the influence of a general anesthetic and tested and watched during the period of recovery, when he will most certainly fail to sustain the fraud.

By the methods thus briefly reviewed, I believe it to be possible in all cases to detect feigned blindness; but the distinction between malingering and hysterical blindness has to be based on other evidence, and cannot be determined simply from the results of these tests.

NEW TREATMENT FOR SCIATICA.—Dr. Negro, from Turin, *Med. Times*, has successfully treated sciatic neuralgia by digital pressure over the painful points. The method employed is as follows: The patient is placed in a horizontal position, with the lower limbs extended and in contact with each other, so as to completely relax the gluteal muscles. Determine by palpation the situation of the great sciatic notch, through which the sciatic nerve passes; apply the tip of the right thumb over the nerve, and above the nail of this place the left thumb. With the thumbs in this position, a very energetic pressure is exerted during fifteen or twenty seconds directly, slight lateral movements being executed in every direction, but without displacing the thumbs. After an interval of a few minutes the pressure is applied a second time in the same way, this operation being much less painful than the first. After the second compression, the patient is, as a rule, able to walk without difficulty, and the pain is relieved for a time varying between several hours and a day. The compression is repeated every other day, six sittings being usually sufficient for the complete cure of sciatic neuralgia, a result which Dr. Negro has obtained in the immense majority of cases (100 out of 113) in which he has had occasion to employ this method of treatment.

FOR EPILEPSY.—Prof. De Bechterew, of St. Petersburg, recommends the combination of potassium bromide with codeia and the infusion of Adonis vernalis. In English, his formula would be about as follows:—

℞. Infus. fol. vernalis..... ℥ss — ℥j ad. ℥vj
Adde:—Potass. bromid..... ℥ij — ℥iij
Codeini.....gr. ij — gr. iij M
Sig.— ℥j— ℥ij in aq. q. i. d.

For this combination, De Bechterew claims a special power of controlling the frequency of the convulsions. The vernalis is said to exert a constricting influence upon the cerebral vessels, and is a cardiac tonic very like digitalis but without its cumulative tendency.

A GOOD RECORD.—The five hundredth birth has recently taken place at the Burnside Lying-in Hospital, without a death from any cause whatever.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

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THE MICROBIAL ORIGIN OF BALDNESS.

SABOURAUD'S RESEARCHES INTO THE RELATIONS BETWEEN SEBORRHŒA, ALOPECIA AREATA, AND BALDNESS.

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I.

Dr. Sabouraud, a former pupil of the Pasteur Institute, the scientific value of whose work on ringworm is already well known, has just completed some very interesting researches at the St. Louis Hospital on seborrhœa, alopecia areata, the falling out of the hair, and baldness. Such diseases as seborrhœa, alopecia areata, ringworm, and baldness do not at first sight appear to have much in common, and the conjunction of their names in the title of a single work must appear very curious. The reader will, however, soon understand the relations between the facts regarding them.

After four years devoted to the mycological and therapeutical study of tinea tonsurans, and after trying in succession all the remedies devised for its cure, Sabouraud came to the conclusion that no antiseptic treatment is absolutely efficacious in the case of a tinea fungus which has invaded the hair as far as the root. This is due to the inaccessibility of the root to antiseptics owing to the narrowness and depth of the hair follicle, which prevent the diffusion of all the therapeutic agents which have been employed. He has furthermore become convinced that if, as appear in favus, one could make a complete series of epilations without breaking the hairs, tinea tonsourans would be rapidly cured. But the diseased hairs break off close to the surface, and so it is necessary to take care to enucleate them by working somehow from below, by the root or even the follicle, killing the latter "temporarily." Following out this line of argument and applying it to alopecia areata, Sabouraud came to the conclusion that if the loss of hair in this disease is due to microbial intoxication, the toxins of the micro-organisms would be capable of inducing alopecia. It would then be possible to use them to produce a temporarily bald area at any desired spot, and so to cause a spontaneous

falling out of the tinea-infected hairs, which are too fragile to be removed by epilation. These ingenious but logical conclusions led their author into a new series of researches occupying three years. All that follows is simple to explain, and can be summed up in a few words, but it will be easy to read between the lines the amount of patient labor which Sabouraud has had to carry out.

II.

These ideas seemed at first very pretentious, requiring as they did for their verification nothing less than the discovery of the microbe of alopecia areata. The first research consisted in the most careful clinical study of the disease, having for its objects the determination of (1) the possibility of a microbic origin of alopecia areata, (2) the exact spot at which the micro-organism, if it existed, was to be looked for.

This preliminary study showed that alopecia areata started from a central point, and that the baldness spread from this point by creeping in every direction along its circumference, in the manner of a spot of oil in a fabric. It showed furthermore that the most pathologically active zone of the patch is situated at its confines, and that it is in this circumferential zone that the infected and broken hairs are found in the form of clubs. Careful study of patches of lupus leads to the conclusion that their centres are smooth, heeled, and appear to present no visible alteration of the mouths of the hair follicles, while the active peripheral zones show considerable dilatation of the pilosebaceous orifices. All this local evolution goes to support the arguments founded upon numerous examples of epidemics in favor of the microbial origin of alopecia areata. But more than this, the local development indicates that the micro-organism resides in the active peripheral zone, and more exactly in the dilated orifices of the hair follicles. These views are borne out by histological facts. Fortune favored M. Sabouraud by providing him with invaluable histological material from the body of a hospital patient who was suffering at the same time from a skin affection and alopecia areata. M. Sabouraud was thus able to see clearly in his histological specimens that a constant small bacillus was to be found infesting the upper part of the hair sac. He was further able to discover that the orifices of the follicles were filled with a fatty substance which could be squeezed out on pressure, and which he called the "seborrhœic cocoon." Now in this seborrhœic cocoon can be found, surrounded by a crowd of microbes, the same organism which has been demonstrated in the histological sections. It remained to isolate this bacillus, to cultivate it, and to demonstrate that it is the actual cause of alopecia areata.

The essential part of the research had, in fact, still to be undertaken, and in carrying it out the author's patience was put to a severe test. The bacillus had to be isolated from the crowd of microbes found in cultures of the seborrhœic cocoon taken *en masse*. There is present under such circumstances practically the whole dermatological flora studied by Unna. It was necessary to discover a medium which should have the power of destroying all micro-organisms except the one in question; which should, in other words, allow the alopecia bacillus to grow while proving unadapted to the life of all other microbes of the seborrhœic

exudate. After a long series of attempts M. Sabouraud has achieved the desired result. It consists of a very acid culture medium, of which the ingredients are the following:

Peptone	20 grammes
Glycerine	20 "
Acetic acid	5 drops
Water	1,000 grammes
Gelose	13 "

With this medium one obtains in many of the tubes, in the midst of the other colonies, one or two pure cultures from the beginning, which are visible on the third to the fourth day, the temperature being 35° C. They show as pointed mounds, the color of which is dirty white on media containing glycerine, a very characteristic brick-red on glycerine media. There still, however, remains a microbe which continues more persistently than any of the others; it is a white coccus, quite characteristic in appearance, and suspected by Sabouraud of playing some part in the genesis of alopecia. This organism must be got rid of, and the author affects this by a novel and ingenious method—the use of immunised gelose. By using in the preparation of the gelose a liquid in which the white coccus has been cultivated a medium is obtained which gives from the first abundant and definitely isolated cultures of the bacillus already mentioned. The same result can be obtained in another way by a slow sterilization; a temperature of 65° C. for ten minutes kills the white coccus but spares the bacillus. The latter has thus been isolated and cultivated, but it remains to be proved whether or no it is the cause of alopecia areata.

A series of experiments were now made with a view to reproducing alopecia areata in animals. Certain results were obtained, some rabbits being caused experimentally to lose their hair in bald patches, but some desiderata still prevent M. Sabouraud from pronouncing definitely and formally declaring the bacillus to be the microbe of the disease. The question is, however, not far from solution.

III.

In all this there has been so far no question of either seborrhœa or baldness; we shall now see, however, that these subjects are intimately allied to those we have already discussed. From the time when Sabouraud first discovered and investigated the bacillus of the "seborrhœic cocoon" in alopecia areata he was struck by its resemblance to the microbe studied by Unna and described by Hodara as the bacillus of acne. This involved the necessity of examining this acne bacillus anew, and Sabouraud soon saw (1) that Hodara's bacillus is not that of acne, since it is found not only in the comedones, but in every form of oily seborrhœa, in the course of which the comedones of acne seem to be no more than an epiphenomenon resulting from local symbiosis; and (2) that his bacillus of the seborrhœic cocoon and Hodara's so-called acne-bacillus are certainly identical. This latter conclusion naturally made Sabouraud hesitate in his idea that his microbe was that of alopecia areata, for up till then there

had not appeared to be the slightest connection between this disease and seborrhœa. Nothing discouraged, he returned to the study of his microbe and endeavored to ascertain all the localities in which it was possible to detect it. A series of researches was thus undertaken which resulted eventually in the demonstration of the microbial nature of baldness. A preliminary study of seborrhœa in the hairy scalp revealed (1) that the bacillus of the brick-red cultures from alopecia areata is also present in the seborrhœic plugs of the mouths of the hair and sebacerus follicles in seborrhœa, that it is there present in considerable quantity, and that it certainly is the cause of seborrhœa, (2) that consequently seborrhœa and alopecia areata have a common origin from the same micro-organism. Finally, having studied the obvious relations existing between seborrhœa and the habitual falling out of hair, Sabouraud came to the conclusion that the disseminated loss of hair in seborrhœa was the prelude of baldness. The histology of bald scalps shows that the mechanism of the process leading to baldness is as follows: Whenever the specific bacillus of seborrhœa invades a follicle, it produces around it, and especially at its base, around the hair papilla, an afflux of wandering cells. The papilla gradually atrophies, producing as it does so a hair which is progressively more and more frail and devoid of pigment. Finally it dies, and the dead hair is expelled. In this seborrhœic infection of the hairy scalp the colonies of bacilli are enormously abundant; the sebum, which is effused on the surface of the skin in the form of an apparently homogenous crust, is composed of an infinite number of seborrhœic plugs turned out of the follicles, and each of these plugs contains the bacillus in millions.

In hairy scalps which have been once invaded, the microbial infection remains epidemic and settled so that a hair once shed is never renewed. Furthermore, the permanent effusion of this germ-bearing sebum infects one by one the follicles which have remained sterile. In this way ordinary baldness is little by little established; the progressive sclerosis of all the elements of the hair follicle brings with it considerable changes of form. The whole part of the follicle invaded by the bacterial colony becomes hollow and broken up by narrow diaphragms which render the seat of infection inaccessible to external antisepsis. But the incredible abundance and absolute purity of the infection persist even when the baldness is finally and definitely established. Even at this terminal stage in its evolution, ordinary baldness remains the most abundantly and most purely microbic malady known in the skin.

Such are the conclusions to which clinical and histological results lead the author; but a further difficulty has to be cleared up. It is that at the moment of infection the bacterial colony does not invade the hair papilla, but remains in the upper third of the follicle. By what mechanism can the colony exert its influence upon the papilla? One can only admit an action at a distance, and this remains to be proved. Sabouraud, thinking then that this distant action was effected by the toxins of the micro-organisms, devised and carried out the following experiment, which is conclusive, and practically seals this chapter on the microbial nature of baldness. He made a cultivation on a liquid medium, and having filtered it through porcelain, inoculated the filtrate deeply under the skin and

into the muscular tissues of a rabbit. The rabbit at once commenced to shed its fur, and within forty days from the date of inoculation general alopecia was established. This experiment is of the greatest value as showing that the toxin of the bacillus of seborrhœic plugs is so specific and individual that when inoculated into the heart of the system it retains its elective and exclusive action on the papilla of the cutaneous hairs.

This is the exact point at which Sabouraud leaves us for the moment; but he promises us before long another memoir containing the results of experiments not yet completed. If we retrace the ground covered by this analysis we find (1) that the microbial origin of baldness is certain; (2) that the micro-organism of baldness is the same as that of seborrhœa; (3) that it is identical with that of the seborrhœic plugs of the orifices of the hair follicles in alopecia areata.

To render the whole work complete, to prove that these results are definitely allied to each other, it would suffice if the following could be added to the third conclusion: The bacillus which is the cause of both seborrhœa and loss of hair acts according to its greater or less virulence under varying conditions in a manner either violent and fulminating, producing what has hitherto been known as alopecia areata, or moderately gentle, giving rise to that progressive loss of hair which in ten or twenty years ends in baldness. This last deduction Sabouraud does not give, in spite of certain favorable experiments. For prudence sake he does not wish to state it yet, because he has till now perhaps been unable to produce in an animal the true patch of alopecia areata, that is to say, the typical disease with the club-shaped hairs. There is probably, however, but a shade of difference to overcome, and we are convinced that after what has gone before Sabouraud's last scruples will soon prove to be baseless. Thus from this work, besides all the other discoveries which it comprises, we hope to see arise at the same time the key to the much-sought solution of the problem of alopecia areata in the definitely and finally established discovery of the microbe of the disease.

THE FORMS OF DIABETES.—Dr. George Harley, *The Lancet*, gives the following classification of diabetes:

1. Hepatic diabetes, including the gouty variety.
2. Cerebral diabetes, including all cases of saccharine urine arising from nerve derangements.
3. Pancreatic diabetes, the most deadly form of the disease.
4. Hereditary diabetes, a form by no means uncommon, and one, too, where both brothers and sisters may labor under the disease without either their maternal or paternal parent having been affected by diabetes, though more distant members of the family may have suffered from it.
5. Food diabetes, including all forms of saccharine urine arising from the ingestion of unwholesome substances.

In the matter of treatment, besides diet and opium or codeine, Dr. Harley recommends croton chloral, strychnine, phosphoric acid for thirst, and an absolute prohibition of alcohol.

NOSE AND THROAT.

IN CHARGE OF

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TWO NASAL CASES.

ONE OF PRIMARY CHANCRE, ONE OF DERMOID CYST.

BY ALBERT KOHN, M.D., ASSISTANT TO DEPARTMENT OF LARYNGOLOGY AT THE MOUNT SINAI DISPENSARY, NEW YORK.

In the *New York Medical Journal* of October 10, 1896, there appeared the histories of two nasal cases, one of initial lesion, another of cyst. To these I wish to add the report of the following cases, both of which came under my care at the throat department of the Mount Sinai Dispensary:

CASE I. *Intranasal Chancre.*—Referred to the dispensary by Dr. H. S. Stark. A man, married, thirty-five years of age, waiter by occupation. Complains of inability to breathe through the right nostril for the past few weeks. Examination shows the right fosa completely filled with a compact mass of granulations, starting about one inch from the orifice. Attempts to probe were resisted on account of the great pain. Under cocaine little more could be gained, for as soon as the probe had passed beyond the anterior border of the mass the pain was too intense to be borne by the patient. The granulations were found, however, to spring from the sæptum. A Volkmann spoon was introduced and the mass rapidly curetted away, the patient suffering severely. There was also considerable hæmorrhage. So intense had been the pain that the patient refused further examination.

He returned on the second day following. Much to my surprise, the granulating mass was in exactly the same state as it was before removal. In two days it had completely reproduced itself. A probe was passed through the inferior fossa, the patient objecting very much, and insisting that he could not stand the pain. A hard mass was detected behind the granulations, beyond which the probe could not be passed, and which was extremely sensitive, notwithstanding the free use of cocaine. The granulations were again curetted away for the purpose of investigating the hard body posteriorly. The patient would not, however, submit to this and declined further interference.

The diagnosis up to this time had been that of tertiary specific growth, in spite of the absence of a history pointing to syphilis, and treatment (with iodide of potassium) had been commenced. But on the patient's return two days later, not only was the mass reproduced, but a typical secondary maculo-papular syphilide covered the entire body, with the other symptoms of primary infection, except that the cervical glands on the side of the nasal trouble were more enlarged than those of the remainder of the body. A thorough examination of the penis and body was now made, but it failed to reveal the least sign of initial trouble. No old scars were found on the penis. Dr. Lustgarten was asked to see the case, and was positive in his opinion that the nose was the seat of the primary chancre. The chancre proper was undoubtedly the hard body felt with the probe, as the exuberant mass in front had nothing about it characteristic of a primary sore.

The patient was put upon the use of inunctions with the usual rapid result. Six months after the appearance of his lesion, at the region of the middle turbinated there was found a complete obstruction of the right nostril, with the exception of a small passage through the inferior fossa. As to the mode of infection, nothing could be learned.

This case was presented before the Metropolitan Medical Society a year ago by Dr. E. L. Meierhof.

CASE II. *Intranasal Dermoid Cysts.*—A woman, aged sixty-five years, comes for deafness which she has had for a great many years, and has been told that the drum membranes were gone. Examination of the ears showed both membranes present, but greatly retracted. Examination of the nose revealed that both sides were almost completely obstructed by myxomatous-looking growths springing from the middle turbinated bodies. Under cocaine, these bodies were removed intact with the cold snare. The conditions on both sides were almost identical.

Upon examining the specimens they were found to be multilocular cysts. On puncturing one of the little sacs, a thick, cheesey material could be easily pressed out, and repeating this on several sacs, they were found to be distinctly partitioned from one another.

The specimens were handed to Dr. Mandlebaum, the pathologist of the hospital, who pronounced them dermoid cysts. The patient was kept under observation for at least six months; there was no sign of recurrence.

REPORT OF INTERESTING NOSE AND THROAT CASES.

BY J. WALTER PARK, M.D.,

Surgeon Eye, Ear, Nose and Throat Department, Harrisburg Hospital; Fellow Harrisburg Academy of Medicine, etc., etc., Harrisburg, Pennsylvania.

There are so many interesting nose and throat cases in one's private as well as hospital practice that, if reported to the profession in general, some one is always sure to be benefited thereby. In looking over my case-books I have selected a few which to me were very interesting indeed, and therefore take the liberty of reporting them to the readers of *The Laryngoscope.*

LARYNGEAL REFLEX COUGH.

Miss M——, aged 40, came to see me January, 1894, complaining of a chronic cough which she says she had been having for over three years. She had been under the care of several eminent physicians, each one of whom seemed to attribute the cause to some chronic laryngitis, as well as bronchitis, but all treatment seemed of no avail. After examining her very carefully and very thoroughly I could find no apparent cause. Her larynx, even down below the vocal cords, seemed entirely normal, and did not even present a hyperæmic condition. She had, however, some hypertrophy of both tonsils, which I finally persuaded her to have cauterized. This was done several times, until they were very materially reduced in size, with the most happy result of the cough entirely disappearing; and about one year afterwards when I last saw her, she was still entirely well. This seems to me to be entirely reflex in character, due, no doubt, to a neurosis involving probably the internal branch of the superior laryngeal nerve. Laryngeal coughs of a reflex character are frequently observed, but when due to hypertrophy of the tonsils they are, comparatively speaking, rare.

ANGIOMA OF INFERIOR TURBINATED BODY.

Mr. B—— came to my office October, 1896, complaining of frequent attacks of epistaxis, stenosis of right nostril, and frequent attacks of headache. An examination revealed what I thought at first to be a myxomatous growth of the inferior turbinated body; but after examining it carefully with a probe I discovered its pedicle, and noticed that it bled very freely, which, of course, put me on my guard. It was attached about midway back, and of a dark purplish color, and very vascular. I removed it very slowly with the cold snare. The first day I had very little hemorrhage to contend with, but the second it became quite profuse and very difficult to control. It was fully a week before all hemorrhage had ceased. When it finally had healed up I could barely discover a cicatrix. A careful examination proved it to be a true angioma, composed of a complete network of dilated blood-vessels, held together by connective tissue, and each seeming to run its own distinctive course. In looking up the literature upon this subject I find that true angiomas are rare, most cases so reported being of a myxomatous type. The treatment, after its removal and final control of the hemorrhage, was entirely antiseptic in its character, by spraying out the nose with a boric acid and chloride of sodium solution. There has been no return of the growth up to the present time.—*Laryngoscope.*

ABSCESS OF THE SEPTUM.

Dr. Kicer's paper on Hematoma Septi Nasi, in the last *Laryngoscope* suggests the report of the following:

H. T., 23 years old. I removed with saw, under careful antisepsis, a growth from the cartilaginous septum of left naris, Dec. 30th.

During the following night a sharp bleeding came on, which was finally stopped by a plug of newspaper, inserted by the patient. Two days later he had sore throat, bilateral nasal stenosis, and the usual symptoms of the then epidemic follicular tonsilitis. Under treatment he was, in 48 hours, relieved of all discomfort, save the bilateral nasal stenosis. This persisted, and on January 13 I aspirated 1 oz. of pus, with immediate relief of the stenosis, which did not recur. Patient discharged well on February 1.

EDWARD J. BROWN, M.D.,
Minneapolis, Minn.

—*Laryngoscope.*

ETHMOIDITIS SUPPURATIVA, ACUTA AND CHRONICA; CAUSE, DIAGNOSIS, AND TREATMENT.—Farber (*Ann. of Ophth. and Otol.*, January, 1896) regards this disease as of common occurrence, and the result of acute rhinitis which has extended through the anterior ethmoidal cells to the frontal sinuses. There is a history in all cases of one or several attacks of inflammation of the frontal sinuses, severe frontal headache, chill, fever, etc. Many cases of this character go on to complete resolution and cure; many more end in the chronic form. The treatment for the acute cases, which should be rigidly carried out, should be confinement to the house for eight or ten days, purgation, hot foot-baths, opium, belladonna, aconite, and quinine.

The symptoms of chronic anterior ethmoiditis are frequent headaches and the presence of a thick, almost purulent discharge, and a large, tough scab coming from one side of the nose, with a more or less catarrhal condition of the nasopharynx. The discharge and the peculiar scab are diagnostic. The latter is found on the middle turbinate near its anterior extremity, extending over the sæptum, and completely blocking the superior meatus. The secretion is soft, slightly tenacious, and greenish-white in color. On its under side it is hard and dry, brownish-yellow, deeply concave, and holds its shape when discharged. The pus, dripping from above, gradually fills the superior meatus and run back to the nasopharynx. There is practically no odor perceptible to others, but the patient himself is conscious of a slight stench.

The treatment consists first in remedying the existing hypertrophies, keeping the nares clean, and opening up the anterior ethmoidal cells through the infundibulum. The anterior end of the middle turbinate should be cut off with a small bone forceps, so as to prevent the accumulation of secretion and give drainage. The infundibulum must then be opened by the dentist's drill, and its direction, starting from the level of the amputated middle turbinate, should be backward, upward, and outward toward the anterior ethmoidal foramen. The structure is easily penetrated, and the pain is not great, and may be alleviated by cocaine. Two or three openings will be sufficient. The size of the "burr" should be about an eighth of an inch, and it should penetrate from a quarter to half an inch, or until the drill has penetrated a cell. Hæmorrhage is not excessive, but is more or less oozing and constant, and therefore it is better to pack the nose. The openings should then be flushed with sublimate solution (1 to 4,000), or with hydrogen peroxide. The edges of the openings should be cauterized with the galvanocautery.—*Bull, in N.Y. Medical Journal.*

PAEDIATRICS.

IN CHARGE OF

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Under the head of environment comes a happy home life with a minimum of worry. Nervousness of any kind causes a rise of the proteids, and if the woman is constitutionally nervous, this may cause such a constant rise as to make the milk unfit for a food. A woman in our wards could not live happily with her neighbors, and frequently indulged in heated argument, with marked show of temper. After these quarrels her child was always upset for a day or two. A simple, nutritious diet, with a proper allowance of meat, is necessary, as it keeps up the general tone of the milk. The milk of an underfed woman shows a reduction in total solids. A lack of meats reduces the fats and total solids, and, on the other hand, an excessive meat diet raises the fats too high.

A judicious amount of exercise in the open air is necessary, for it is a general tonic to the milk. When the milk is scanty, a little exercise often restores the proper amount; and the baby who has been crying from hunger, and lagging behind in weight, improves in a wonderful manner. A lack of exercise allows the proteids to increase. On the other hand, excessive exercise worries and tires out the mother, and acting like other untoward nervous influences, results in the production of too large an amount of proteids, causing the same result as if exercise had been neglected.

Each one of these conditions, if nicely regulated, is a source of good; on the other hand, their abuse or neglect is sure to result only in injury. Moreover, the regulation of these conditions varies according to the idiosyncrasy of different women, and in each case it must be determined just how much of each is required. In some cases it is only by repeated examinations of the milk, and re-arrangement of the manner of life, that a satisfactory condition is reached.

EXCESSIVE FATS.

In judging from the chemical analysis alone, without regard to the effect of the milk upon the child, we should often wrongly judge the fats to be in excess, as we have already stated that this constituent is subject to great variation, and that an unduly large amount may occur at any period of lactation: there is no particular time when this condition is to

be expected. A large amount of fat may tax the digestive system too severely, and is often followed by spitting up after nursing, vomiting, or by intestinal symptoms. Such disturbances, if allowed to persist, are naturally followed by lack of nutrition and a loss of weight, which must receive treatment. This consists mainly in cutting down the amount of albumen in the mother's diet, until the per cent. of fat in the milk agrees with the child; but should this be carried too far, it results in a general impoverishment of the milk in all its solids, with a reduction of the total solids, so that although we have corrected the excess of fats, the nourishing properties of the milk are impaired, and the nursing infant loses weight from partial starvation.

A deficiency of fat never causes any intestinal symptoms that we have been able to determine. It is generally considered that a deficiency of fat causes constipation; but this we have not proved. Constipation has more often seemed to be due to an insufficiency of milk, or an insufficiency of total solids, so that not enough is left to pass through the alimentary canal as waste material.

The analysis of the milk explained the source of trouble. There was a decided change from the milk we had analyzed on the twenty-ninth day. Then the fats were but 1.85 per cent., but now they had run up to 8.44 per cent. This quantity of fat is so very unusual and excessive that there was no hesitation in blaming it for the child's condition, and steps were immediately taken to correct it.

Rotch, of Boston, has said that the amount of fat in the milk can be controlled by the amount of nitrogenous material in the mother's diet. The treatment in the following cases was not indicated, but was prescribed to prove or disprove his statement.

EXCESSIVE PROTEIDS.

The proteids are apt to be excessive under certain conditions. These conditions are a lack of exercise, too rich a diet, and nervousness. Excessive proteids occur frequently during the first days of lactation. When excessive, they show themselves by interfering with the infant's digestion, the symptoms of which are vomiting and frequent movements of the bowels, which may contain curds of undigested proteid. The movements are sometimes green and sometimes yellow, the green movements being more frequent during the first days of nursing. The baby suffers from colic, and on account of the disturbance of the digestive organs there may be a disturbance of nutrition sufficient to cause a loss of weight. We shall consider the treatment of this condition during the first days of lactation later, but for the present will speak of the treatment in general.

The treatment of this condition is both prophylactic and curative. Its most constant cause is lack of exercise. A woman of sedentary habits, especially if her diet is too rich, should be advised to take a suitable amount of exercise, regulation of this function being the most reliable factor in reducing the proteids. By drinking a larger amount of water, the mother can dilute her milk so that the total solids, and consequently the proteids, will be represented by a smaller per cent., or the milk may be pumped and diluted with water directly, when it can be fed from the bottle.

For ten days the infant had frequent yellow and undigested stools. There had been no vomiting, but the child cried a great deal with colic. The foster-child was in the same condition. This shows, both in the case of the mother's child and the foster-child, the usual results of a milk with high proteids.

The next case demonstrates some principles in the treatment of excessive proteids, which Rotch has shown consists in regulation of the exercise.

The infant had been having five or six green movements with curds every day since birth. The mother had taken no exercise, was losing sleep, and was very nervous. This case showed high proteids, as we shall find later is the case in prematurity. The mother was in such poor condition it was feared that exercise would be an injury rather than a help. Still, fresh air was necessary, and driving each day was recommended. She was advised to eat meat but once a day, instead of three times, and to drink large quantities of water.

PREMATURITY.

In every case of prematurity in which we have had an opportunity to analyze the milk we have found distinguishing characteristics. The variations of the colostrum period are present, but exaggerated in the proteids. This increase in the proteids extends over a longer interval than in ordinary colostrum milk, and is not easily dispelled. It consequently taxes the delicate digestive organs of the untimely-born infant for a longer time than is usual. The sugar, the complement of the proteids, is low at this time. The cases reported were all one month premature.

TREATMENT OF THE COLOSTRUM PERIOD.

The treatment of excessive proteids during the colostrum period is difficult. Naturally during child-bed the mother's diet must be limited, and exercise upon which we ordinarily rely for reducing the proteids is impossible. The milk can be pumped, diluted with water, and fed from the bottle; or it can be diluted by the administration of large quantities of water to the mother. In some of the less severe cases less frequent nursing will prove of benefit, taking water from the bottle in the intervals. This condition is usually temporary, and will adjust itself in a few days.

ABNORMALITIES TOWARD THE END OF LACTATION.

The most marked changes in the milk in the later months of lactation are a reduction of the proteids and total solids. These seem of little importance, but are not to be lightly considered. The diminution in the proteids is the natural forerunner of the cessation of lactation, and means that the milk is deteriorating; on the other hand, if the proteids are high lactation will probably continue for some time.

The fats, certainly, are no criterion of the condition of the milk; neither is the sugar, but a proper amount of proteids in the milk indi-

cates its tone is good. The physiologists tell us that fats and carbohydrate can be made in the human body, but that proteids cannot be, so that they have to be taken in as such. A scanty amount of proteids then means that the nursing infant will have to get along as best it can under unfavorable conditions. We have observed many such cases, and been led to think that at this time the proteids are the backbone of the milk, and really represent its nourishing properties better than any other guide which we at present possess. This condition, forced upon the child, causes a general weakness of the constitution, which results in anæmia, fretfulness, a falling below the normal gain in weight, delayed dentition, and proneness to gastro-enteritis. The latter symptom may not appear till some time after we have begun the tardy process of weaning. As a rule, the first sign of approaching danger is a tendency to gain weight more slowly than normal. A healthy infant should gain from four to eight ounces weekly for the first six months, and from two to four ounces weekly during the second six months. If the child's weight falls below this standard for any length of time, or is stationary, or there is a positive loss, we should try to find the cause at once. It may be that the infant is getting insufficient milk. This can be determined by weighing before and after each nursing. The milk should be analyzed, and if the total solids and proteids are found low, their absence must be supplied.

TREATMENT OF NORMAL CASES IN THE LATER MONTHS OF LACTATION.

The hygiene of the mother's life must be carefully regulated. On account of certain deficiencies which we have seen occur normally in human milk of this period, certain additions must be made to the diet. By the seventh or eighth month the infant's pancreas is functionating so well that we can rely upon it to convert starch, and some carbohydrate, such as barley gruel, should be given in addition to the milk. On account of the lack of proteids, we must give a substitute of some form of animal food. In this way a deficiency in the mother's milk can be partially supplied.

Weaning should begin at the ninth month, and in the early stages of this process we should use a modified milk containing low proteids, taking care not to force upon the infant's digestion an amount of cow's proteids equal to or greater than that which the mother has been offering, for it is known that the proteids of cow's milk form a tough curd, which are indigestible in comparison with human proteids. The number of bottle feedings and the amount of proteids should be gradually increased. Under this treatment, even if the child continues to lose weight for a time, we can feel that the stomach is gradually becoming accustomed, and eventually will be able to digest, a stronger diet. At any rate, we shall have the satisfaction of keeping the child from gastro-enteritis, to which its constitution would be particularly susceptible at this time.

MANAGEMENT OF ABNORMAL CASES IN THE LATER MONTHS OF LACTATION.

If the mother is anæmic, a tonic containing iron is indicated. Holt has shown that malt increases the total solids in human milk, and we

have found its use very beneficial at this time. The form we have used has been Maltine. The mother's diet should be increased with the addition of cow's milk. A good form in which to prescribe the latter is a milk punch. Exercise in the fresh air is important. Antiseptic massage of the breast for its local stimulating effect was used on A. M. Thomas' service at the hospital. In the later months of lactation we cannot hope to bring the original tone back to the milk, but we can hope to keep it from degenerating further till the child has been weaned.

SUMMARY.

(1) Excessive fats or proteids may cause gastro-intestinal symptoms in the nursing infant.

(2) Excessive fats may be reduced by diminishing the nitrogenous elements in the mother's diet.

(3) Excessive proteids may be reduced by the proper amount of exercise.

(4) Excessive proteids are especially apt to cause gastro-intestinal symptoms during the colostrum period.

(5) The proteids, being higher during the colostrum period of premature confinement, present dangers to the untimely-born infant.

(6) Deterioration in human milk is marked by a reduction in the proteids and total solids, or in the proteids alone.

(7) This deterioration takes place normally during the later months of lactation, and, unless proper additions are made to the infant's diet, is accompanied by a loss of weight, or a gain below the normal standard.

(8) When this deterioration occurs earlier, it may be the forerunner of the cessation of lactation, or well-directed treatment may improve the condition of the milk.—*Archives of Pediatrics.*

CHRONIC MALNUTRITION OF INFANTS.

The combination of yolk of egg and olive or cottonseed oil made into an emulsion is found very useful in cases of rickets or chronic malnutrition in infants. The emulsion can be made as follows: olive oil, ℥ ij; glycerine, ℥ j, yolk of one egg. Make an emulsion, and add one-half minim of creosote to each drachm. Occasionally it is better to use a smaller amount of creosote when this agent is not well borne by the stomach. A full teaspoonful of the emulsion is given three times a day after feeding. The preparation seems to be readily tolerated, even when the stomach is irritable.—*Practitioner.*

ANTIPYRIN FOR CONJUNCTIVITIS.—Dr. A. E. Anderson (*Ther. Gaz.*) desires to call attention to the value of this drug as a remedy for conjunctivitis, acute, chronic and granular. He uses a ten per cent. solution, applying this to the tarsal conjunctiva with a pledget of cotton, taking special care to push the cotton well up into the retrotarsal fold. There follow a momentary sensation of pain and a gritty sensation, causing the patient to blink, which soon disappears. For use at home, thrice daily, a four per cent. solution may be ordered.

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Editorial.

THE CAPACITY OF THE ORGANISM TO RESIST INFECTION.

In the numerous discussions as to the application of antiseptic measures to surgical and obstetrical work, how rarely is the question of the personal equation of the patient given its rightful value and consideration. We see this element of vital resistance, be it greater or less, exemplified in many instances, not only in the hands of the indifferent and careless, where it has ample opportunity to show its power, but also in the hands of the strictest disciples of the antiseptic and aseptic doctrines, where there are from time to time examples to prove its weakness. It seems impossible to believe that infection or non-infection can be entirely controlled by external agents.

Under the most rigid rules of antiseptis or asepsis, infection still claims its occasional victims, and in the absence of them, it is true, the victims are much more frequent; but surely anyone who has had the opportunity of observing the latter, has been struck with the remarkable frequency of escape in cases where there has been a very evident source of infection, and, on the other hand, when all has been done to obviate infection, we do see an occasional fatal septic result, or if not fatal in the whole, fatal in part.

Women have been delivered of their children while suffering from some highly infectious disease, and without evil result. They have gone through the same ordeal utterly unprepared, from an antiseptic standpoint, and with the most septic surroundings, and many a precipitate labor has left no time for necessary preparation, and yet a very large proportion escape infection.

Such an instance occurred to the writer some years ago when called in haste to attend a woman in confinement suffering from erysipelas, involving the right arm and shoulder. It was a precipitate case and precautions were necessarily scant. The subsequent history was uneventful.

Some may explain this by immunity conferred by the erysipelas attack.

Under the most careful asepsis and antisepsis a small fibroma was recently removed from the buttock of a man, a fine specimen of a laborer, apparently in the best of health. Seventy-two hours after the operation the patient died of a general streptococcus infection. Such cases, though rare, unfortunately do occur, and, considering the care taken, the explanation is not very clear. One of the best authorities on antiseptic surgery on this continent looks upon every wound as infected despite every precaution, and, as one suppurates and another does not, we must look for an explanation either in the wounded tissues themselves or in the body generally. Possibly the phagocytes are at fault. Thus there is evidently some hidden element which governs the progress of these cases and over which external measures have no control, and it is this that is so often lost sight of in considering the questions of suppuration and infection.

These ideas do not in any way militate against asepsis—far from it—they only tend to show how persistently the most approved methods should be enforced in all cases. Some may not use them, but experience has shown that a vast number do, and it is also known that some, even with all the assistance in our power to give, are yet unable to resist the infection, however modified; but unfortunately we cannot make this distinction until we test it.

To go to extremes in asepsis can be but erring on the right side, and giving every patient his best chance, but, in the minds of some, it gives a sense of false security, which in itself is not so bad, but by reasons of which assertions are sometimes made regarding infection and its prevention, which by their sweeping character, are misleading and harmful, and in the minds of those incapable of judging rightly, and give rise to most erroneous ideas as to liability, and censure falls upon those, often least deserving it, and whose unfortunate results in a certain number of cases arise from no fault of their own, but depend upon some physical or vital defect in the patient. This defect may be local or general, and though there be a great difference between a local suppuration and a general septicæmia from a prognostic point of view, the principle of infection is the same. There is little doubt that a local suppuration prevents a general infection in many cases, that is, the tissues at the point of inoculation are able to successfully overcome the invading organism by walling them off, so to speak. It is also well known that in many autopsy wounds, the cases going on to a general infection show but little reaction at the point of inoculation, and vice versa. Dr. Welch, in his monograph on wound infection, says that though predisposition is a doctrine of which a good deal is made, it is nevertheless a very real thing and one not to be passed over without notice. "Every surgeon knows that wounds in some persons do much better than in others, and that some kinds of wounds are much more prone to suppurate than others." (Welch).

It is well-known that such conditions as diabetes, alcoholism, obesity, Bright's disease and some of the fevers predispose to infection. Anæmia and hydræmia also pave the way in a similar manner (Gartner). Flexner in his experimental study of terminal infections showed that the

blood serum of patients suffering from chronic cardiac and renal disease had a reduced destructive influence upon the staphylococcus pyogenes aureus.

While there are these causes to account for infection taking root and producing its local or general destruction, a thorough examination for such should be made before operation and the patient placed in the best possible condition prior to operation, where the delay for such is allowable. There are, however, instances in which no such signs are to be found and in which the wounds do badly. The possibility of a degree of infection cannot be lost sight of, which is an extra plea for rigid asepsis and antisepsis in the treatment of open wounds. H. P.

"CAUSATION AND TREATMENT OF ITCHING."

According to *The New York Medical Journal* Dr. De Wannemacker, of Ghent, *(Wiener Med. Blätter)* says that from an ætiological point of view we may divide pruritis into the primary forms which are not associated with an eruption, and the secondary which either accompany or follow an eruption.

If there is such a thing as an essential pruritis, a true neurosis, not dependent upon any systemic or inflammatory disease, its occurrence, he thinks, is quite exceptional, and in the great majority of cases an apparently idiopathic pruritis must be looked upon as the expression of some local cause, such as the irritation from some local discharge, as leucorrhœa, or a general disease such as Bright's disease, diabetes, jaundice, etc. In secondary pruritis, dependent upon cutaneous irritation, the treatment is that of the skin affection by which the itching is caused. Often this is all that is required. But there are cases in which it is impossible in our present state of knowledge to cure the underlying disease altogether, such, for example, as psoriasis accompanied by itching. In such cases we must employ symptomatic treatment.

The extraordinary curative action of antiseptics in many cases of pruritis of the vulva goes to show that the trouble is caused by a micro-organism, even when the microscope fails to reveal its presence.

In order to treat scientifically primary pruritis, we must fix upon the cause of the nervous irritation, which must, in many cases, be due to morbid materials circulating in the blood, products that are developed in the system under certain conditions. This theory is supported by the great extent of surface often affected with itching, by its repeated occurrence and subsidence in various regions at different hours and on different days; by its being increased or lessened with the taking of certain articles of food or particular drugs, and by the fact that in those general diseases such as Bright's, jaundice, or diabetes, changes are known to take place in the blood.

Whether this change is due to uric acid, diminished coagulability of the blood or other disturbance, it is not less true that this theory best accounts for the occurrence and progress of attacks of itching. The best remedies are either anodyne or those that exert a direct effect on the blood.

Chloral, cannabis indica and gelsemium are included in the first class, and in the second class carbolic acid and the various coal-tar products that have both effects, antipyrin, phenacetin, etc. The use of salophen also often gives encouraging results. What its modus operandi is is unknown.

Dr. De Wannemacker gives condensed accounts of five cases where he tried salophen in daily amounts of from forty-five to seventy-five grains. One of them was a case of psoriasis, and it yielded promptly; but he states that he has since used it in that disease without result.

M. M.

BRITISH MEDICAL ASSOCIATION.

Since our last issue, the list of officers for the Montreal meeting of the British Medical Association has been completed, Dr. Herman M. Biggs, of New York, having accepted the invitation of the Council to deliver the address in Public Medicine. (Dr. Biggs, the scientific head of the New York City Health Department, Physician to Bellevue Hospital, has done much to advance his subject. His address will be one of the features of the Meeting.)

By an Order-in-Council, the Provincial Government has subscribed $2,000 for the purposes of the Association. Altogether, therefore, through the public spirit of the Dominion Government, Provincial Government, and Montreal City Council, $10,000 has been granted towards the expenses of the meeting. These, with a guarantee fund which is being obtained from members of the profession in Montreal and with private acts of hospitality on the part of the citizens, should be ample.

Sir Donald A. Smith, the High Commissioner, has invited the members of the Association and its guests to a reception at 1157 Dorchester St., upon the Wednesday evening of the meeting. Other leading citizens are offering afternoon entertainments. The Montreal Golf Club has also thrown open its Links to members during the meeting, and in very many directions generous help is being offered by those unconnected with the profession.

All this activity is, we are glad to learn, being met by a very promising condition of affairs upon the other side of the Atlantic. We learn that several steamship companies have already their best berths engaged by members, while some have already a full complement of prospective travellers. The invitations to the leading members in the United States have already been forwarded, and now the various sections are busy preparing their programmes.

We herewith print the provisional programme corrected up to date, it being understood that this is provisional and liable to further modification.

BRITISH MEDICAL ASSOCIATION.

PROVISIONAL PROGRAMME.

WEDNESDAY, AUGUST 18th to THURSDAY, AUGUST 26th.

Meeting of the British Association for the Advancement of Science at Toronto.

THURSDAY, AUGUST 26th to MONDAY, AUGUST 30th.
Excursion for members and guests of the British Association, from Toronto via Niagara, Kingston, the Thousand Islands, Ottawa, etc., to Montreal

MONDAY, AUGUST 30th
Meeting of the Canadian Medical Association at Montreal.

TUESDAY, AUGUST 31st
12 00 a.m.—Service in the English Cathedral.
2.30 p.m.—Windsor Hall: Opening ceremonies and addresses of welcome.
3.00 p.m.—Address by the President-elect, T. G. Roddick, M.D., M.P.
4.00 p.m.—Garden parties, excursions, around the Mountain, etc.
9.00 p.m —Soirée at Laval University.

WEDNESDAY, SEPTEMBER 1st.
10.00 a m.—McGill University: Opening of sections.
3.00 p m.—Windsor Hall: Address in medicine by Dr Wm Osler.
4.00 p.m —Excursion down the St. Lawrence, etc.
9 00 p.m.—Reception by the Hon. Sir Donald A. Smith, K.C.M.G., etc.

THURSDAY, SEPTEMBER 2nd.
9.30 a.m.—McGill University: Sectional meetings.
1.30 p.m.—Lunch on the Mountain
3.30 p.m.—Windsor Hall: Address in Surgery, by Mr. T. Mitchell Banks
4.30 p m.—Excursion across the Island, etc.
7.45 p m —Annual dinner of the Association, Windsor Hall.

FRIDAY, SEPTEMBER 3rd.
9.30 a.m.—McGill University: Sectional meetings
3.00 p.m.—Windsor Hall: Address in Public Medicine by Dr. Herman M. Biggs, N.J., and concluding general meeting.
4.15 p.m.—Excursion to St. Anne's and down the Lachine Rapids.
9 00 p.m.—Soiree at McGill University.

SATURDAY, SEPTEMBER 4th.
Excursions to Ottawa Quebec, Kingston, Lake Memphremagog, etc.

THE MEDICAL PROFESSION AND THE MOST RECENT TARIFF CHANGES.

The duty upon books under the old tariff was a specific duty of six cents per pound. This was changed on the 23rd of April to an ad valorem duty of 20 %. Upon a certain class of good books this bore very heavily, as was pointed out in our editorial of last month. The representations made to the Hon. the Finance Minister have resulted in a reconsideration of the item. On works of fiction and on paper-covered and unbound books the rate remains at 20 %, but on other books it is reduced to 10 %.

The concession hitherto given to colleges and universities with regard to the free admission of books not printed in Canada, which are on the curricula of such teaching bodies "for the use of students," is allowed to stand with the omission of the words "for the use of students." This means for us that every medical work named on the curriculum of any medical college in the Dominion is to be admitted free of duty for all purchasers.

We entered a protest last month against the unfair treatment of medi-

cal libraries as contrasted with that accorded to law and certain other libraries, and the management of the Ontario Medical Library energetically strove for an equalization. The privilege sought for has been handsomely granted, and the libraries of medical, law, literary, scientific or arts associations are now placed on exactly the same footing.

But something better than even this is accorded us in the changes announced on the 25th of May. The Minister of Finance said: "We propose to put on the free list for everybody books such as would be used by young men interested in the study of mechanical arts: books on the application of science to industries of all kinds, including books on agriculture, horticulture, forestry, fish and fishing, mining, metallurgy, architecture, electric and other engineering, carpentry, shipbuilding, mechanism, dyeing, bleaching, tanning, weaving, and other mechanical arts. A part of this is based on the old tariff, but that portion which places on the free list books upon the application of science to industry is a new item."

THE LANCET is glad to be able to announce that the customs authorities at Toronto, by a liberal interpretation of the above claim, which does not specifically mention medicines as one of the branches of applied science, are now allowing the free entry of all books on medicine and surgery. Furthermore, American reprints of English works not copyrighted in Canada may now be imported into Canada. The broad and liberal spirit shown in the changes which we are able to announce is vastly to the credit of the Hon. Mr. Fielding and his colleagues.

It has been decided that surgical instruments, which with binders' twine and barbed wire were placed on the free list, should, like these other articles, continue to pay the old rate of duty for the current year. After January 1st, 1898, these may all be entered free of duty.

N. A. P.

PILL GUY HOSPITAL.—Under the title of "Pill Triplex No. 2, Guy Hospital," Messrs. Parke, Davis & Co. have added to their list a formula largely used in cardiac dropsy, consisting of blue mass, Digitalis and squill, each pill containing one grain each. It is supplied in gelatin-coated only, oval in shape. Physicians generally, who have been using this pill, will be glad to know that it can be procured in this desirable form and from a firm of such well-known repute as Messrs. Parke, Davis & Co.

PERSONAL.—Dr. A. C. Lambert, late of the General Hospital here, and now of the R.M.S. *Empress of China*, has continued to prosper in his new sphere. He had to grapple, in his last voyage home, with an outbreak of small-pox, which was completely controlled in short order. The passengers appreciated his management of the threatened epidemic to the tune of a very handsome purse at the end of the voyage.

NEW TREATMENT OF PROLAPSUS ANI.

Dr. Platt, in the *Johns Hopkins Hospital Bulletin; Jour. Am. Med. Assn.*, offers the following as a modification of treatment of prolapsus by suture. He says this method of treatment is not at all original with him. He had operated on a child in vain by other methods. He had twice employed linear cauterization, thus endeavoring to bring about adhesion between the bowel and the tissues, but without avail. Dr. Earle, of Baltimore, recommended an operation which Dr. Kelly had suggested, and which completely cured the prolapse. Not long ago, this second patient entered the Garrett Hospital, with an obstinate prolapse of the rectum, which projected about four inches below the body each time the child had a stool. He did this operation, keeping the suture in for three weeks. It was entirely successful. He afterward learned that Dr. Kelly has used this operation in the vagina in cases of prolapse of the uterus. In the case of the anus the operation is as follows:

At the junction of the skin and mucous membrane, just beneath the latter, a curved needle is inserted in the median line below, and a silk thread is carried half way around the anus and out again, in the median line above, re-inserted in the same opening, and brought out at the first puncture, making a purse-string suture. The little finger is then put in the anus and the string tied snugly around it. Apparently this would cause suppuration, and possibly a fistula. It does nothing of the kind, nor does it cause any pain afterward. The child has his stools in the recumbent position. If the feces are at all hard, injections are given to soften them. After three weeks the suture is withdrawn and the place kept clean, when it heals immediately, with no return of the prolapsus. By this method the bowel is kept in place long enough to contract.

DIET IN EPILEPSY.

Dr. Haig contributes an article to "Brain," *Lancet*, which deals with the effects of diet and drugs in epilepsy, which, he thinks are due to the differences they produce in the excretion of uric acid. Dieting in epilepsy is an old therapeutic measure, which has probably often a distinct influence in individual cases, depending on various idiosyncrasies of which we know little, although it must be confessed some authorities have met with people in whom a strict diet seemed to increase the number of fits. The object of this mode of treatment is to limit nitrogenous foods, and so limit the amount of uric acid in the system. Dr. Haig thinks that the treatment has been a failure only because it has not been carried far enough, and he quotes a number of cases to show how a number of uric acid-forming compounds may be contained in a diet which at first sight appears to contain very few. Without going so far as to believe that uric acid and epilepsy are in such direct relations as cause and effect, which is the view that Dr. Haig holds, it is conceivable that in predisposed persons an excess of uric acid in the system might act as the exciting cause; and so, therefore, in many cases it might be worth while to try the effect of such a strict diet as Dr. Haig advocates, in the hope of at any rate diminishing the number of fits.

TIME TO RUPTURE THE AMNIOTIC SAC IN LABOR.

Says the *N. Y. Med. Rec.*—1. In multiparæ, rupture when os is fully dilated. 2. In primiparæ, delay until the soft parts are also dilated. 3. In cases of face and breech presentation, delay in rupturing the sac is best. 4. When the pelvis is small and the fetus large, delay rupturing. 5. In premature labor, with a dead fetus, rupture early. 6. Rupture the sac early when the membranes are unusually thick, tough and unyielding. 7. When speedy delivery is demanded rupture early. 8. Rupture the sac when an excessive amount of amniotic fluid retards labor. 9. When version is necessary and can be accomplished by bimanual manipulation, perform the operation before rupturing. 10. Remember that a dry labor is always to be deprecated, hence do not rupture at all unless for good reasons and the case demands it.

EARLY SIGN OF MENINGITIS.

A constant sign of commencing meningitis consists in the inharmonious movements of the chest and diaphragm (*Times and Register*). It exists from the beginning and may serve to reveal it even in insidious cases. It requires careful searching. The chest and abdomen must be bared, but not suddenly, or the hyperesthetic skin will take on accidental movements from the action of the air.

In the first period of meningitis irregularity of the rhythm and then inequality of the amplitude or development of the chest are seen. Another sign is the irregular type of respiration and disonation of the movements of the chest and diaphragm. The respiration is effected by the lower respiratory muscles of the chest. There is either immobility or depression in the umbilical region with each inspiration, instead of the normal elevation. These movements are not connected with the Cheyne-Stokes type of respiration.

PAIN OF GASTRIC ULCERATION—

℞. Exalgin.....gr. xiv.
Extract of Belladonna.
Codeine phosphate.....aa gr. v.
Sugar of milk.....gr. lxxv.

Mix and divide into ten catchets.

Dose, one to be taken with the onset of pain.

PRURITUS VULVÆ.—The best treatment, whatever the nature of the malady (senile, nervous or inflammatory), consists in washing the vulva, vagina and cervix uteri with soap and a mercuric chloride solution every three or four days. After each washing, the regions which are especially pruritic are coated with a thin layer of vaseline, with three to five per cent. carbolic acid.—*Pruge.*

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ANTITOXIN IN THE TREATMENT OF LARYNGEAL DIPHTHERIA,*

WITH AN ANALYSIS OF 991 CASES OF LARYNGEAL DIPHTHERIA UNDER PERSONAL OBSERVATION.

BY DILLON BROWN, M.D., NEW YORK.

Professor of Pediatrics in the University of Vermont and Adjunct Professor in the New York Polyclinic; Physician to the City Children's Hospital, etc.

In discussing the value of any treatment for diphtheria it is necessary to consider this disease separately as it involves the larynx and as it involves the naso-pharynx. For all therapeutical purposes we have practically two distinct diseases, although the cause may be the same. In the laryngeal type the danger is from asphyxia, either from laryngeal obstruction or, when this is overcome, from an extension of the membranous inflammation to the smaller bronchi; and the danger from sepsis is not great because of the meagre lymphatic supply in this region, and the small area of surface from which absorption of toxines can take place.

On the other hand, in naso-pharyngeal diphtheria the danger from mechanical obstruction is slight, and the fatal cases are, almost without exception, the result of the absorption of poisons through the abundant lymph and blood supply. This is especially true of the nasal cases, as in this region not only is the blood and lymph supply very abundant, but it

*Read before the Trinity Alumni Association of Toronto and also published in the St. Louis *Medical Fortnightly.*

is almost impossible to obtain good drainage when the nasal mucous membrane and the turbinated bones are swollen.

Again, in laryngeal cases the disease is rarely the result of a mixed infection, but naso-pharyngeal diphtheria, as we see it in practice and not in the laboratory, is frequently due to a mixed infection. The importance of this from a therapeutic point of view is evident when we consider the difference between infection by Klebs-Loeffler bacilli and by streptococci. The point is that in streptococcus infection the germ itself finds its way into the blood and viscera, and this is rarely true of the bacillus in Klebs-Loeffler infection. In one case you have a toxin only to fight, and in the other you have both the germ and its toxin.

Although we must admit that there are many unsolved therapeutical problems in connection with the antitoxin treatment of *naso-pharyngeal* diphtheria, there can be no doubt of its almost specific value in the *laryngeal* form of this disease. The laboratory proof is absolutely convincing as far as it goes, namely, that the serum in proper doses is a specific for preventing the harm which follows the absorption of the toxin of the Klebs-Loeffler bacillus. The clinical results confirm this conclusion.

I can do nothing stronger to uphold this conclusion than to give a short analysis of the cases of laryngeal diphtheria which I have seen during the past twelve years. I have arranged them from September to September, so that the cases for each winter will be kept together. With but few exceptions (less than a dozen) they have been seen in counsel with other physicians, and, since the antitoxin days, the diagnosis has been confirmed in nearly every case by a bacteriological examination by the New York or Brooklyn Board of Health.

INTUBATION CASES.

	Number.	Recovered.	
July, 1885, to September, 1886,	37....	7, or 18.9 per cent.	
Sept., 1886, " 1887,	65....	15, " 23.0 "	
" 1887, " 1888,	89....	28, " 31.4 "	
" 1888, " 1889,	95....	31, " 32.6 "	
" 1889, " 1890,	63....	19, " 30.1 "	
" 1890, " 1891,	63....	23, " 36.5 "	Began here
" 1891, " 1892,	117....	40, " 34.1 "	with calo-
" 1892, " 1893,	84....	32, " 38.0 "	mel subli-
" 1893, " 1894,	76....	29, " 38.1 "	mations.
" 1894, " 1895,	57....	25, " 43.8 "	Began here
" 1895, " 1896,	30....	17, " 56.6 "	with anti-
" 1896, to April, 1897,	20....	18, " 90.0 "	toxin.
Total.....	796.	284, or 35.6.	

September, 1894, to September, 1895:

18 cases with antitoxin and 5, or 38.4 per cent. recovered.
44 " without antitoxin, 20, or 45.4 " "

September, 1895, to September, 1896:

27 cases with antitoxin, and 17, or 62.9 per cent. recovered.
3 " without antitoxin, and 0, or 0 " "

September, 1896, to April 1st, 1897:

19 cases with antitoxin, and 18, or 94.7 per cent recovered.
1 " without antitoxin, and 0, or 0 " " "

The following table shows the results with or without calomel sublimations in all cases of laryngeal diphtheria up to September, 1894, or the beginning of the antitoxin treatment, and the results since antitoxin was used.

PREVIOUS TO NOVEMBER, 1890.

358 Intubations; no fumigations; 101, or 28.2 per cent. recovered.
44 No intubatious; no fumigations; all recovered.
16 Died before my arrival.
10 Refused operation and died.
8 Died of sepsis with only slight obstruction.

NOVEMBER, 1890, TO SEPTEMBER, 1894.

(*Beginning of Calomel Sublimations to Antitoxin Treatment.*)

84 Intubations; no fumigations; 20, or 23.8 per cent recovered.
247 " fumigations; 103, or 41.7 " "
6 No intubations; no fumigations; all recovered.
36 " " fumigations; all recovered.
17 Died before my arrival.
9 Refused operation and died.
8 Died of sepsis with only slight obstruction.

SEPTEMBER, 1894, TO APRIL, 1897.

(*Antitoxin Treatment Period.*)

48 Intubations; no antitoxin; 20, or 41.7 per cent. recovered.
59 " antitoxin; 40, or 67.8 " "
9 No intubations; no antitoxin; all recovered.
18 " " antitoxin; all recovered.
5 Died before my arrival.
4 Refused operation and died.
5 Died of sepsis with only slight obstruction.

SUMMARY.

442 cases; intubation; no calomel sublimations; 121 recovered, or 27.3 per cent.
295 " intubation; with calomel sublimations; 123 recovered, or 41.6 per cent.
59 " intubation; with antitoxin; 40 recovered, or 67.8 per cent.
50 " no intubation; no calomel sublimations; all recovered.
45 " " " with " " " "
18 " " " with antitoxin; all recovered.
38 " Died before my arrival.
23 " Refused operation and died.
21 " Died of sepsis with slight laryngeal obstruction

991 cases.

It is interesting to note the steady improvement in results as our knowledge of the technique of intubation increases, and as we learned from experience to overcome, with greater success, the dangers and accidents of intubation. The marked improvement after calomel sublimations were used, and the still greater success after antitoxin, are noteworthy. This benefit is seen not only in the larger number of recoveries after operation, but in the increased percentage of cases which recovered without an operation. Thus, of

492 cases; no sublimations; 50 recovered without operation, or 10.1 per cent.

340 " with sublimations; 45 recovered without operation, or 13.2 per cent.

77 " with antitoxin; 18 recovered without operation, or 23.3 per cent.

Of course even this underestimates the good results, for the percentage of cases under calomel sublimations or the antitoxin treatment, which recover without operation, is very much larger. Since the introduction of antitoxin many cases recover and are never seen by the consultant, which in former years would have undoubtedly come under his notice.

The apparently bad results after the use of antitoxin from September, 1894, to September, 1895, were probably due to two causes: inferior antitoxic serums and insufficient doses. A careful consideration of the cases during this period fails to show any marked difference in severity between those that received and those that did not receive antitoxin.

New York, 40 East 57th Street.

SALICYLATE OF METHYL.—At the last meeting of the Société Médecale, M. Lemoine said, *Med. Press and Circ.*, he treated nine cases of acute rheumatism by painting the inflamed joints with salicylate of methyl as recommended by Sinossier and Lamois, with uniform success. The essence of wintergreen applied to the cutaneous surface acted in the same way as salicylate of soda taken internally, but seemed to more rapidly diminish the suffering. With a dose of from one to two drachms no vertigo nor noises in the ears were experienced. The drug was eliminated by the urine in the form of salicylic acid, and equal to a tenth of the quantity applied. His method was to sprinkle the desired amount on a linen compress, and to cover it with a sheet of guttapercha, the whole maintained in position by a bandage. When the application could not be made directly *loco dolenti*, he placed the compress as near as possible to the root of the limb. The good results obtained seemed to be chiefly due to the cutaneous absorption through the general circulation.

M. Sireday considered that the essence of wintergreen had more effect on subacute and chronic rheumatism than salicylate of soda. The drug gave him also satisfaction in the treatment of the fulgurating pains of locomotor ataxy, and of Pott's disease.

Hyoscine in the dose of $\frac{1}{100}$ of a grain is of much value in the treatment of nocturnal emissions.—*Hare.*

MEDICINE.

IN CHARGE OF
N. A. POWELL, M.D.,
Professor of Medical Jurisprudence and Lecturer on Clinical Surgery, Trinity Medical College; Surgeon to the Hospital for Sick Children, and to the Extern Department Toronto General Hospital; Professor of Surgery, Ontario Medical College for Women. 167 College St.; and
WILLIAM BRITTON, M.D., 17 Isabella Street.

A VISIT TO BAD NAUHEIM, WITH THE PURPOSE OF INVESTIGATING THE "SCHOTT TREATMENT" FOR CHRONIC HEART DISEASE.

BY C. N. B. CAMAC, M.D., FIRST ASSISTANT RESIDENT PHYSICIAN.

Last November, at Dr. Osler's suggestion, we undertook to introduce into the hospital the Schott treatment of exercises and medicated baths for cases of chronic heart disease. After consulting the bibliography of the subject, several cases were placed under treatment according to the instructions contained therein. At once, however, we were confronted by numerous questions, answers to which it seemed quite impossible to find in any of the references at hand. Although the literature dealt at length with changes in the cardiac outline, the position of the cardiac maximum impulse and the respiration, the theories upon which the beneficial effects were based, etc., no answers to such practical questions as the following were given:

(1) Is any massage to be employed during or after the bath?

(2) What drugs are to be employed during the treatment, and what drugs are contraindicated?

(3) Should the baths and exercises be given together; or if separately, which should precede?

(4) Are stimulants to be administered before or after the bath?

(5) What should be the diet of the patient?

(6) Are cases of hydrothorax or ascites to be tapped? etc., through quite a list with which it is hardly necessary to weary you.

Finding many of these questions unanswered, it was with considerable interest that I received Dr. Osler's suggestion to visit Bad Nauheim, the home of the treatment and of Dr. Schott, its originator.

Nauheim is in the Grand Duchy of Hesse, three-quarters of an hour from Frankfurt a. M., and two hours from Homburg. Nearly in the centre of the northeastern half of what geologists have called the Mayence Basin (Mainzerbecken) Frankfurt is located, and at the eastern slope of the Johannesburg, the last spur of the Taunus mountains, is situated Bad Nauheim. As one approaches Nauheim he is struck by the great trestlework structures in the midst of the fields. On examining these more closely they are found to be frame structures about 200 to 300 feet

long and about 50 feet high, supporting switches closely stacked one upon another. The salt waters are raised to the top of these trestles and allowed to filter through the interlacing switches, upon which, by the evaporation of the water, the salt is deposited. These switches are removed every few months or so, the salt broken from the branches, ground and refined, and serves as the commercial salt of the surrounding country. The most beautiful forms result from these deposits, and by the clever devices of the natives the most grotesque figures are produced. I have some of the figures thus produced.

An estimation of the commercial value of these works to-day may be made by the value put upon them in 1806, when they were considered by Napoleon an adequate reward to Marshal Louis Nicolas Davout (erroneously written Davoust) for his services in the French army; and again in 1866, when they fell to Hesse Darmstadt in exchange for Homburg. Since 1834 the reputation of Nauheim for the efficacy of its springs has been steadily coming to the notice of Europeans. Frankfurt up to this time forming the centre and battlefield of many of the German disputes with France, rendered Nauheim scarcely a fit place for invalids.

It was therefore not until 1834 that we begin to hear of Nauheim as a resort for invalids. It was not until 1860, however, that Dr. Beneke of Marburg considered scientifically the value of the medicated bath treatment. From 1859-1870 several articles by Beneke of Marburg, upon the waters of Nauheim, appeared in the *Berlin Klin. Woch.* From 1870 to 1890, August and Theodore Schott and J. Groedel were frequent contributors on this subject to the *Berlin Klin. Woch.*, also to the *Deutsch Med. Zeitung.* August Schott died, but his brother Theodore continued the work, and published in 1892 an article in the *Lancet* which caused little comment.

In 1894 W. Bezley Thorn became an ardent advocate of the bath treatment, and published an article in the *Lancet* and also a small book in which he described quite fully the baths and exercises. With the appearance of this systematic little book up to the present the treatment has been very popular in England Nauheim, its waters, and the resistance exercises, have been frequent topics in English and German medical journals. In France and America the treatment has as yet received no very thorough trial. It is interesting to note here the increase in the number of visitors from 1871 to 1895. In 1871 the visitors numbered 5,249; in 1891, 9,244; 1892, 10,272; 1893, 10,384; 1894, 11,681; 1895, 14,136.

Although the season was over when I visited Bad Nauheim, I had the opportunity of seeing the baths through the courtesy of Dr. Hirsch Dr. Schott's assistant, who showed me over the grounds and described very fully the details of the treatment. It can best be described in Dr. Schott's own words: "The springs of Nauheim may be divided into two classes, those suitable for bathing and those suitable for drinking. Together with other ingredients the bath waters contain from two to three per cent. of sodium chloride, from two to three per 1,000 of calcium chloride, various salts of iron, above all, very large amounts of carbonic acid.

"Coming from the depths of the earth, they have a temperature of 82-95° F. Springing from a depth of 180 metres supercharged with carbonic acid gas by the pressure to which they are subjected, the waters gush far above the surface; for example, spring No. 12 rises to a height of 56 feet and falls again in white seething masses." This is a most striking condition; so richly charged with carbonic acid are these waters that the reservoir into which they fall has the appearance of a great mass of clouds. "Conveyed directly from the main by means of subterranean pipes, these waters charged with their natural gas are allowed to completely cover the body of the bather. Little bubbles of gas are seen to immediately cover the whole surface of the body; the waters of springs Nos. 7 and 12 escape from a pressure of from 1½ to 2½ atmospheres, and afford a surf bath which compares accurately with the strongest surf bath of sea water."

The first question which arose when this matter came to be scientifically investigated was, how do these baths and exercises act? That they were very efficacious in the relief of chronic cardiac disease had been demonstrated for some years back, but their action had never been investigated. There are several explanations given:

(1) That given by Dr. Schott in the following words: "Physiological research of recent years seems to show that the salts held in solution in water externally applied have no direct action on the system; the light and mobile molecules of the gas, on the other hand, pass rapidly through the skin to the corium with its rich supply of blood. We must look upon the salts held in solution as passing by imbibition through the uttermost layer of the epidermis, and so acting on the terminal nerves of the skin as to exert a reflex action on the internal organs. The warm baths act in their own peculiar manner on the organism as a whole; increased tissue change seems to be induced by an increase of the oxygen-absorbing power of the cells, and hence follows the sense of the need of rest and sleep as an immediate consequence of the bath, as well as influences speedily brought to bear on the nervous system as a whole. Excessive bathing induces an excitable state of the nervous system, sleeplessness, loss of appetite and consequent loss of strength. The principal changes which ensue in the system and in the function of the special organs are that the heart beats more slowly and strongly, the pulse becomes full and increases in force, and the blood pressure may rise to the extent of 20, 30 mm. of mercury; the breathing becomes regular and quiet, and the capacity of the lungs increased.

"While the patient is in the bath he becomes flushed and a feeling of comfort and warmth ensues which may even rise to one of an agreeable, intoxicating character. Almost invariably the excretion of urine is increased; exudates in the body cavities, especially from the peritoneum, pericardium and pleura, are absorbed. This latter action and that on the valves of the heart can only be explained on the theory of reflex action produced by influences acting upon the terminal nerves."

Another explanation is that given by Dr. Bezley Thorn, that there is a dilatation of the muscular arteries and afterwards those of the skin, and thus there is a relief of the heart from backward pressure.

In Lauder-Brunton's massage experiments he demonstrates that more blood flows through the massaged part and that blood pressure at first rises and then falls, and that on the conclusion of massage more blood collects in the massaged part. These experiments were confirmed by Dr. Oliver.* T. Grainger Stewart† concludes that the passive exercises (1) improve the circulation of lymph within the tissues, and (2) bring a larger volume of blood into the muscles. He quotes the conclusion of Ludwig to the effect that the capacity of muscles for blood is equal to the combined capacities of the internal organs and the skin. If, therefore, this be so and Dr. Lauder-Brunton's experiments be correct, the increased amount of blood in the muscles must indicate a relief of the congestion in the internal organs.

In Dr. Schott's explanation there are two actions:

(1) A cutaneous excitation induced by the mineral and gaseous constituents, and

(2) A more prolonged stimulation of the sensory nerves excited by imbibition into the superficial layer of the corium. The salt producing this excitation is the calcium chloride.

Whatever the explanation of their action may be, two points seem established:

(1) That the apex beat alters its position;

(2) The area of cardiac dullness is diminished. These two facts, especially the first one, were most strikingly obvious in our first cases, and both facts were most forcibly demonstrated to me in the cases which I saw abroad. One can scarcely credit the results published until he has seen for himself these marked changes.

The case reported to Dr. Bowles in the *Practitioner* for July, 1896, shows a change of 3 cm. in the apex beat before and after a bath of ten minutes' duration, and he says after his visit to Nauheim, which was made for the purpose of seeing for himself, "that which I thought impossible is shown to be quite possible." This case reported by Dr. Bowles was one of chronic myocarditis, moderate pleural effusion, general anasarca and general enlargement of the heart. The age of the patient was not given. I shall not at this time attempt to report cases, but merely mention this one of Bowles in order to confirm what has been our experience of the effect of the bath upon *the position of the apex beat*, and many other reports confirmatory of this remarkable change are to be found in the literature on this subject.

The diagrams of the cardiac outline made by Dr. Bowles are not quite accurate, but there can be little difference in opinion as to the position of the maximum cardiac impulse.

To quote Dr. Schott again: "The methods of administering the baths are of the greatest importance. It is advisable to begin with a 1 per cent. salt bath containing $\frac{1}{1000}$ of chloride of calcium, freed from gas and at temperatures varying from 92° to 95° F., the bath lasting from six to eight minutes. The course of treatment should be interrupted by frequent intervals of one day. The temperature of the bath should, if pos-

Brit Med. Jour., June 13, 1896.
†*Ibid*, September 19, 1896.

sible, be gradually lowered, while the proportion of solids in solution and the duration of the bath are gradually increased. At a later stage it is permissible to proceed to the baths containing carbonic acid. The temperature may then be rapidly lowered, especially if chloride of calcium be added in order to increase the mineral strength of the bath."

The course consists of six baths: the first and the second being simply with salts, calcium chloride and the sodium chloride; the third, fourth, fifth and sixth contain carbonic acid as well as these salts.

The preparation of the baths artificially was taken up especially by W. Bezley Thorn, in London, in 1895, since which time Ewart, Bowles and Broadbent have employed them in London, Moeller in Brussels, and Heinemann in New York. Following the analysis of the Nauheim waters made by the chemist Fresenius of Wiesbaden, the artificial baths may be readily prepared. We have now packages made up at our pharmacy each containing the proportion of salts for the different strengths of the baths, each package corresponding to 40 gallons of water, which is just about enough to entirely immerse the body. The baths of different strengths are given to appropriate cases.

I have not attempted in this note in any way to speak for or against the treatment nor to report cases. I have thought it best for the present simply to give an outline of the trip to Bad Nauheim, the purpose of which was to see the effects of the treatment and to learn something about it with the object of trying it in the hospital here. We have now five cases under treatment, and I trust by keeping careful records of the effects of these baths and exercises that we shall be able to pass judgment upon the weak points as well as the strong points of the method. Only by a careful trial can one place himself in a position either to recommend or to condemn the treatment. I take this opportunity of expressing my appreciation of the patience with which Dr. Schott heard and answered my many questions. I also wish to thank Dr. Heinemann for the instruction in the movements which he so carefully gave me.

In regard to the exercises, which are worthy of a lengthy description, something must be said. They consist of nineteen movements, each movement restrained by the very lightest resistance. This part of the treatment, under the supervision of a physician, is entrusted to the nurses, to whom we have given careful instructions as to the method of carrying it out.

The following are the instructions which we have laid down for the nurses in the administration of the bath, also the chart showing the observation which should be made.*

RULES FOR SCHOTT BATH.

(1) Always understand clearly from the doctor the following points: (1) Strength of the bath to be given; (2) temperature of the bath; (3) length of time patient is to remain in the bath. *Note.*—Give the bath in the morning unless otherwise ordered.

*These rules are made after perusal of the literature, also from instruction obtained from Dr. Schott personally.

(2) Observe carefully the chart and note the points therein called for. (1) Give bath on an empty stomach. (2) Note the time from the moment patient is immersed to that when he is taken out. (3) Allow the patient to make as little exertion as possible; assist him in every way. (4) A sheet may be drawn over the tub, but not around the patient. (5) Be sure the entire body is immersed. (6) Keep the finger on the pulse during the entire time the patient is in the bath.

Danger Signals.—Cyanosis (bluing of the face), dyspnœa (difficult breathing), apnœa (gasping), inappreciable pulse. On the appearance of any of these, take the patient out of the bath immediately, put him to bed and keep him as quiet as possible. Friction while in the bath is not necessary, but if the fingers and toes become bluish the extremities may be rubbed slightly towards the trunk. Friction should be cautiously employed; when the patient is out of the tub rub him to a glow; give him a glass of milk or cup of bouillon and allow him to rest for an hour.

Diet.—Small quantity q. 4 h. Meat—boiled chicken, mutton chops; eggs, two a day; oysters, raw or panned; vegetables—peas, beans, lettuce; liquids—beef tea, bouillon, cocoa, lemonade, milk. *Note.*—Never give more than 4 ounces of fluid at a time. Should be sipped. Wine—port, Rhine, sherry, brandy, dram to half ounce.

Note.—Something light (cocoa and toast) should be taken one-half hour before the bath; something light and hot (bouillon, milk punch and toasted crackers) should be taken directly after the bath. If the heart's action is poor, sherry, brandy or port wine may be given after the bath. Last meal to be taken three hours before retiring.

Bath No. I.—Sodium chloride, 4 pounds; cal. chlor., 6 ozs.

Bath No. II.—Sodium chloride, 5 pounds; cal. chlor., 8 ozs.

Bath No. III.—Sodium chloride, 6 pounds; cal. chlor., 10 ounces; sodium bicarb., 6 ounces; HCl, 7 ounces.

Bath No. IV.—Sodium chloride, 7 pounds; cal. chlor., 10 ounces; sodium bicarb., 8 ounces; HCl, 12 ounces.

Bath No. V.—Sodium chloride, 9 pounds; cal. chlor., 11 ounces; sodium bicarb., 1 pound; HCl, 1 pound.

Bath No. VI.—Sodium chloride, 11 pounds; cal. chlor., 12 ounces; sodium bicarb., 1 pound; HCl, 2 pounds.

Each bath consists of 40 gallons of water.

Note.—By using a little more $HaHCO_3$ than is required to take up the HCl, the metal tubs may be employed without doing them any harm.

$$\underbrace{NaHCO_3}_{83.75} + \underbrace{HCl}_{36\ 37} = NaCl + H_2O + CO_2$$

THE EXERCISES.*

The exercises are called by Dr. Schott "Widerstandgymnastik," or resistance gymnastics, and consist in slow movements executed by the patient and resisted by the physician or operator. A short interval is

*The description of each movement is taken (with a few modifications) from "Chronic Disease of the Heart," by W. Bezley Thorn.

allowed after each movement, during which the patient sits down. The exertion employed must be very small, and should cause no increase in respiratory movements, flushing or pallor. The patient should be loosely and lightly clothed, and instructed to breathe quietly. The resistance made should be of such a kind that the patient may always feel himself easily the master. The operator must not grasp or in any way constrict the limb, but should oppose by the hand held flatly. The movements are nineteen in number:

Arm. (1) Arms extended in front of body on a level with shoulder, hands meeting; arms carried out until in line, and brought back to original position. (2) Arms hanging at sides, palms forwards; arms flexed at elbow until tips of fingers touch shoulder, back to original position; *one arm only moved at a time.* (3) Arms down, palms forward, arms carried outwards and upwards until thumbs meet over head; back to original position; one arm only moved at a time. *Not always advisable.* (4) Hands in front of abdomen, fingers flexed so that the second phalanges touch those of opposite hand; arms raised until hands rest on top of head; back to original position. (5) Arms down, palms against thighs, arms raised in parallel planes as high as possible; back to original position.

Trunk. (6) Trunk flexed on hips; return to original position. *Resist with both hands.* (7) Trunk rotated to left, to right; return to original position. *Resist with both hands.* (8) Trunk flexed laterally. *Resist with both hands.* (9) As No. 1, but fists clenched. *Resist with both hands.* (10) As No. 2, but fist clenched. *Resist with both hands.*

Large Arm Movements. (11) Arms down, palms against thighs, *each in turn* raised forwards and upwards until arm is alongside of ear, then turned outward, and arm descends backwards. Not always safe. (12) Arms down, palms to thighs. *both together* moved backwards in parallel planes as far as possible without bending the trunk forwards. Not always safe.

Legs. (13) Thighs in turn flexed on trunk, opposite hand resting on chair. (14) Lower extremities in turn extended fully, and bent on trunk forwards and backwards to extreme limits of movement, opposite hand resting on chair. (15) Legs in turn flexed on thigh, both hands on chair. (16) Feet together, lower extremities in turn abducted as far as possible and brought back to original position, opposite hand on chair.

Hands and Feet. (17) The arms, extended horizontally outwards, are rotated from the shoulder-joint to the extreme limits forwards and backwards. (18) The hands in turn are extended and flexed on the forearm to extreme limits, and brought back in line with arm. *Resist with both hands.* (19) The feet in turn are flexed and extended to extreme limits, and then brought back to their natural position. *Resist with both hands.*

We have arranged these in 5 groups, as in this way they may be more readily committed to memory.

RULES FOR OPERATORS.

1. Each movement to be performed slowly and evenly at an uniform rate.

2. No movement to be repeated twice in succession in the same limb or group of muscles.

3. Each single or combined movement to be followed by interval of rest. Count five.

4. Patient's breathing should not be accelerated.

I. *Avoid.*—1. Dilatation of the alæ nasi (dilating of nostrils).

2. Drawing of corners of mouth.

3. Duskiness and pallor of cheeks and lips.

4. Yawning.

5. Sweating.

6. Palpitation.

If any of the above make a complete interval, or if excessive, stop the exercises for the day.

5. Direct patient to breathe regularly. If he holds his breath, make him count in a whisper.

6. Do not constrict the part which is being moved.—*Johns Hopkins Hospital Bulletin.*

INTESTINAL INDIGESTION.

The term digestion relates to the proteolytic and amylolytic action of the digestive ferments or enzymes in transforming the proteid and carbohydrate foodstuffs into soluble or diffusible products, changes rendering them capable of assimilation and utilization by the system.

A thorough knowledge of the complex processes of digestive proteolysis is of vital importance, because the proper understanding of the normal processes of the body aid us to better appreciate and more correctly interpret the abnormal or pathological processes to which the body is subject. The progress of physiological knowledge of the digestive processes has been materially aided in recent years by a more accurate technique in chemical methods. But even yet these processes are little understood, therefore you will pardon me for recalling to your minds some elementary facts of the digestive functions which in a sense are to day "twice-told tales." The exceeding prevalence of digestive disturbances has attracted my attention, especially in the last few years, and the more I investigate the more impressed I am of the importance and magnitude of this field for further investigation.

It is impossible to discuss intestinal indigestion apart from gastric indigestion. The former is a direct complement to the latter. Hence it will not be amiss to discuss the general nature of the digestive ferments or enzymes.

The origins of the several digestive ferments are from the cell protoplasm of the gland cells from which the respective secretions are derived. The peculiar action each performs in digestive proteolysis is due to the inherent character of the cell protoplasm from which each is derived.

Ptyalin of the saliva is the first enzyme which the food encounters in the alimentary canal. Ptyalin converts amyloids into maltose. The next step in digestion is made by the pepsin of the gastric juice, which ferment is rendered active by the contact agent, hydrochloric acid.

Pepsin transforms proteid foodstuffs through several processes, the final products being peptones. These peptones are not, as no doubt they are supposed by some, ready for direct absorption into the circulation. Peptones when injected directly into the blood-current behave as foreign bodies and produce a narcotic effect, not unlike that resulting from the injection of bacterial toxines. In fact, it is claimed by many good authorities that many of the chemical poisons produced by bacteria are proteose-like bodies, chemically similar to the proteoses or peptones of pepsin proteolysis. The peptones then resulting from pepsin proteolysis, since they act as toxines or foreign bodies when taken directly into the circulation, must therefore undergo some further transformation during the process of absorption by which their toxicity is destroyed and their nutritive elements rendered available for the needs of the body. In the discussion of pancreatic digestion this subject will be referred to again.

During gastric digestion, if hydrochloric acid is not present in sufficient quantity—free or combined—to insure the best function of pepsin proteolysis, the growth and development of pathological bacteria occur; acetic and lactic fermentation ensue, and these processes, often repeated and adequately prolonged, cause gastric congestion, inflammation, and indigestion. The way is now paved for disturbances of intestinal digestion, the immediate subject for our discussion.

Since the gastric peptones are not ready for direct absorption as such, gastric digestion is to be regarded rather as a preliminary step in proteolysis, preparatory to the more radical changes characteristic of pancreatic digestion, in which the important factor is the trypsin ferment. Aside from its functions as a reservoir for the food, and its preliminary work above described, indeed, the services of the stomach might in a greater or smaller degree be dispensed with. When the chyme or pepsin-peptones pass into the duodenum the reaction is acid, but by the time they reach the middle of the small intestines the reaction becomes alkaline, rendered so by the bile, the pancreatic juice, and the intestinal secretions. Trypsin, the active ferment of the pancreatic juice, unlike pepsin, does not require the presence of a contract agent, as hydrochloric acid, to insure its action. Chemical experiments with pancreatic extracts show that trypsin acts better in a neutral or alkaline medium. But the testimony afforded by some recent experiments with pure pancreatic juice, if we may rely on their accuracy, seems to bear evidence that the presence of a small per cent of hydrochloric acid not only does not retard but rather facilitates the action of trypsin, and the fact that the intestinal contents do not loose their acid reaction entirely until they reach the middle of the small intestines may be advanced as corroborative testimony. However, it is a well-demonstrated fact that the gastric digestion is essentially an acid digestion, and intestinal digestion an alkaline digestion. A word is in order here concerning the influence of bile on the proteolytic action of the pancreatic juice. Bile added to neutral or slightly acid proteids increases the action of trypsin. Further, the bile emulsifies fats, acts as an antiseptic, and stimulates peristaltic movement. It is strongly alkaline in reaction. The carbonate of sodium in the intestinal secretions completes the alkalinity of the intestinal contents, and this reaction obtains

until the large bowel is reached, when the reaction again becomes acid through the products of proteid decomposition.

The processes of digestion begun in the stomach then are carried forward by the pancreatic juice, which is the most powerful of the digestive secretions. By its ferment, trypsin, it converts albuminoids into peptones, but more quickly than pepsin does. Is diastaltic ferment acts more quickly and powerfully in converting amyloids into glucose than does ptyalin of the saliva. Its third ferment readily emulsifies fats.

The foodstuffs having been acted upon by the ferments of the several digestive juices, the proteids are reduced to peptones, and the corbohydrates to maltose. Absorption occurs principally in the small intestines. Now, since, as above stated, peptones and maltose can not be absorbed as such into the circulation without deleterious effects, the conclusion is inevitable that they must undergo some further transformation during the process of absorption which adapts them for the direct nutritional needs of the body. There are two theories as to the nature of this transformation. One is that the epithelial cells of the intestinal mucosa possess a ferment which is capable of further transforming peptones into simple products, as serum, albumin and globulin. And it is also claimed that these cells possess another ferment which further reduces maltose into glycogen, and that this characteristic may also be shared by the liver-cells. The second theory supposes that the leucocytes of the adenoid tissue surrounding the intestines have the functional activity of absorbing and transforming peptones into cell protoplasm, which thus gains entrance into the circulation through the mesenteric glands and thoracic duct.

Excessive ingestion of both proper and improper foods forms the chief cause of indigestion—primarily gastric, secondarily intestinal. Whenever the gastric and pancreatic juices fail to digest a part or all of the food ingested, that which escapes is attacked by bacteria and undergoes fermentative and putrefactive changes. The products of this bacterial action on the proteid substances which escape digestion are primarily indol, skatol, carbonic acid, etc., finally carbon dioxide, ammonia, nitrites, and sulphuretted hydrogen, all of which are abnormal products and by contact irritate the intestinal mucosa. Their partial absorption also gives rise primarily to a subjective train of symptoms usually designated by the term "biliousness," the vagueness of whose significance is a reproach to our intelligence. The contact and absorption of these products sufficiently prolonged produce more grave pathological conditions.

When carbohydrates escape digestion bacteria attacks these, and such abnormal products as alcohol, acetic acid, carbonic acid gas, etc., are formed, which added to the abnormal products formed by the action of bacteria on the undigested proteid substances, and enumerated above, cause sufficient irritation to the intestinal mucosa to keep it constantly oversupplied or gorged with blood, which eventually results in thickening of the intestinal mucosa, stasis of the lymphatics, paralysis of the villi, infiltration of the submucous connective tissue, and degeneration of the intestinal muscles. The nerves supplying the intestines become paretic, and peristaltic movement is inhibited. Constipation ensues, bacterial

toxines are produced and absorbed, poisoning all the tissues. Finally the inflammation extends to the large bowel, the colon becomes thickened, and peristaltic movement ceases at the cecal end. Its valves becomes relaxed and thickened, the valvular opening to the appendix becomes permanently relaxed, subjecting it to the constant danger of the entrance of foreign bodies, hence the frequency of appendicitis. At this stage of the disease diarrhœa alternates with constipation, tympanities is constantly present, and abnormal fermentation processes have full sway.

At this point let me sketch for you a clinical picture. We note that indigestion breeds bacterial fermentations, from which are evolved toxines whose primary effects, since they lie in contact and constantly bathe the intestinal walls, are the series of pathological conditions just above enumerated. We have also noted that absorption occurs principally in the small intestines, but the above said pathological changes in their walls pervert their selective power in choosing proper elements for absorption as well as impair their power in further transforming the peptones and maltose during the process of absorption, consequently these are absorbed as such along with the bacterial toxines which they resemble in physiological action. Through the vitiated blood-stream all the organs of the body are poorly nourished, and thereby rendered fit soils for the inroads of diseases. In my mind pulmonary consumption and Bright's disease are but the expressions of ill-nutrition. The nervous system probably is the greatest sufferer. The diversities of the nervous diseases labeled "neurasthenia" may all trace their origin to indigestion. Such marked pathological conditions as sclerosis of the brain and cord, ataxia, and tabes dorsalis may owe their origin to errors of digestion and consequent auto-infection. Indeed the clinical picture of intestinal indigestion, beginning with the beginning, when it expreses itself under the vague term "biliousness," and tracing it to the end, presents many complex features. So far-reaching are the evil effects of wrong digestion and malassimilation that in the outlines of this picture the image of "the thousand ills the flesh is heir to" may be traced, furnishing a spectre that makes the memories of the visions in Dante's Inferno come to us as pleasant dreams. Then, pity 'tis 'tis true that we most all "dig our graves with our teeth," and seldom is there a day but adds a nail to our coffin.

With this clinical picture of intestinal indigestion plainly before us the indications for treatment, or rather management, are obvious. The details of treatment would require a paper alone, and the scope of this paper will permit only a synopsis. The first thing indicated is to provide the proper quality of food, regulate the quantity, and in this respect every case is a law unto itself. If any constipation be present at this early stage, broken doses of calomel, ipecac, and soda are in order to arouse the secretion and to establish elimination. The next step is to correct any errors of gastric digestion. If there is a lack of hydrochloric acid, the same is indicated immediately before meals, and as much or more for its antiseptic effects than for its proteolytic action. If there is a condition of hyperacidity, carbonate of sodium should be administered two hours

after meals. If after having corrected the reactions of the chyme, preparatory to its further transformation by the intestinal juices, the digestive disturbances continue, the next step is not to commit the sin, which I consider the most common error in therapeutics to-day, of applying artificial digestants. Our object should be rather to tone and stimulate the digestive organs to the performance of their natural functions. Pepsines and their ilk should be thrown to the dogs. Theoretically, protonuclein to stimulate digestive leucocytosis is indicated, did we listen to the claim of its originators and vendors: practically, I prefer to supply the nuclein through beef, milk, and eggs.

A favorite prescription with me is one containing strychnia, hydrastis, ox-gall, gentian, ipecac and aloes. I use the nit. strych. It exercises a better effect over the secretions than does the sulph., and has the same toning power over muscular tissue. Hydrastic sulph. has a similar physiological action as the strych.; besides, it acts locally to heal the intestinal mucosa. Ox-gall is antiseptic and laxative, and being alkaline in reaction favors pancreatic proteolysis. Gentian acts better as a tonic, ipecac stimulates secretion, and aloes relieves the colon.

Aside from this, salol or thymol should be employed for their decided antiseptic effects when there is marked bacterial fermentation and infection in progress. Persistent tympanites is a reliable index to this condition. Daily salt sponges followed by general massage, together with an abundance of outdoor exercise, are very important adjuvants.

However, when intestinal indigestion has reached the second or third stage any treatment will fail that does not include lavage of the stomach and colon. Here truly cleanliness is next to godliness. It is imperative that both ends of the alimentary track be kept clean.—G. E. DAVIS, *Am. Practitioner and News.*

LUKE FILDES' PICTURE, "THE DOCTOR."

Mr. Henry Tait has promised Luke Fildes' picture, entitled "The Doctor," to the new Westminster Gallery, London, as soon as the building is finished. The picture will then be open to the world for inspection and discussion. Meanwhile all who have seen the etchings or lithographs of this painting will be interested in the following quotation from an article recently published by the editor of the *Art Journal:*

"After many studies, Mr. Fildes had the interior of a cottage erected inside his own studio. This was carefully planned and properly built, with rafters and walls and window, all as afterwards expressed in the finished picture. The composition has been recognized by the medical profession as a great and lasting compliment to the whole body. No more noble figure than the doctor could be imagined—the grave anxiety supported by calm assurance in his own knowledge and skill, not put forward in any self-sufficient way, but with dignity and patience, following out the course his experience tells him is correct; the implicit faith of the parents, who, although deeply moved, stand in the background, trusting their doctor even while their hearts fail. At the cottage win-

ns to steal in, and with it the parents again take hope
mother hiding her face to escape giving vent to her
ving his hand on the shoulder of his wife in
t glimmerings of the joy which is to follow."
know from what source the striking portrait
ained.
s a copy of this picture, with the follow-
n a card beneath it:
would climb to kiss,
nd brave and just,
onor and women trust."

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ve-grain doses, when given with one-eighth of a
l often induce dreamless and natural sleep, a result
e accomplished by double the amount of either drug.—
d. Monthly.

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e *British Medical Journal* is responsible for the following: A Chinese servant wished to intimate that the nurse reported that the baby had swallowed a cockroach, but was getting better, owing to a simple and almost inevitable natural process. The fact was stated thus: "Amah talkee that Sambo have chow-chow one piecie cockaloach. Just now he number one, he tummy have come topside."

CAMPHOR AS AN ANTIGALACTOGOGUE.—Herrgott, *Br. Med. Jour.*, being dissatisfied with the effect produced by the usual antigalactogogoes, including antipyrine, has tried camphor, and finds that 9½ grains a day, divided into three doses and given for three days, nearly always produces a remarkable diminution of the secretion. He has used it in thirty cases, having been first led to try it by the good results obtained by Kiener in animals, especially milch cows.

COUNTER-IRRITATION IN THE TREATMENT OF HERPES.—Theodore Wilkins, *Med. Record*, states that he had good results from treating herpes by this method. In nearly all cases of herpes zoster a tender spot may be found higher up over the nerve trunk, and at this point the counter-irritant is applied in the form usually of flying blisters or turpentine. The pain is generally speedily relieved, and the eruption dries up much sooner than would be the case in the natural evolution of the lesions.—*University Med. Magazine.*

ADVANTAGES OF TECHNICAL LANGUAGES.—The advantages accruing to the modern-trained nurse from a familiarity with technical terms are shown (*Boston Med. and Surg. Jour.*) by the recent remark of a nurse in attendance upon a man suffering from vesical retention. The patient had for some days been obliged to make several futile attempts in each case before accomplishing the function of micturition. Finally relief came, and the nurse saluted the doctor at his morning visit with the cheerful words: "He passed water to-day *by the first intention.*"

OBSTETRICS AND GYNAECOLOGY.

IN CHARGE OF

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CLASSIFICATION OF ACUTE PERITONITIS.

BY N. SENN, M.D., CHICAGO.

Acute inflammation of the peritoneum is produced by so many different causes and assumes such varied clinical aspects that it is extremely difficult to formulate a satisfactory classification of the condition. A discussion of its etiology, differential diagnosis, prognosis, and treatment, except upon the basis of a clear and comprehensive classification, is fruitless and misleading, and usually results in the deduction of erroneous and often dangerous conclusions. The classification should include the anatomy, pathology, and etiology of the disease to be of value in rendering a correct diagnosis and a reliable prognosis, and to enable the physician and surgeon to advise and apply effective therapeutic measures.

1. ANATOMIC CLASSIFICATION.

An accurate anatomic diagnosis is necessary for the purpose of locating the inflammatory process correctly or to trace the connection between it and the organ primarily the seat of infection. During the beginning of the attack and in cases of localized peritonitis, the inflammation can usually be located without much difficulty, while the reverse is often the case after the disease has become diffuse. The inflammation may commence and spread from either surface of the serous membrane, visceral and parietal.

a. Ectoperitonitis.—An inflammation of the attached side of the peritoneum is called ectoperitonitis. As compared with inflammation of the serous surface, this inflammation of the subendothelial vascular connective tissue is characterized clinically and pathologically by intrinsic tendencies to limitation of the inflammatory process. In infected wounds of any part of the abdominal wall in which the peritoneum is exposed but not perforated, the primary ectoperitonitis is occasionally followed by the extension of the infection to the serous surface through the lymphatics, or by the direct extension of the infective process through the tissues until it reaches the endothelial lining. Peritonitis of a visceral origin is always preceded by ectoperitonitis, whether the infection reaches the peritoneal cavity through a perforation or by aggressive exten-

sion of the infection from a primary focus through the tissues until it reaches the free peritoneal surface.

b. Endoperitonitis.—What is usually spoken of and described as peritonitis is an inflammation of the serous surface of the peritoneum, which, anatomically speaking, is an endoperitonitis.

c. Parietal Peritonitis.—Inflammation of the serous lining of the peritoneal cavity is called parietal peritonitis. It may occur as a primary affection in penetrating wounds of the abdomen, but more frequently is met with as a secondary disease in consequence of the extension of an infection from one of the abdominal or pelvic viscera, or perforation into the peritoneal cavity of a visceral ulcer or a subserous or visceral abscess.

d. Visceral Peritonitis.—Inflammation of the peritoneal investment of any of the abdominal or pelvic organs is known as visceral peritonitis. The inflammatory process is seldom limited to a single organ, as during the course of the disease adjacent organs or the parietal peritoneum will surely become involved. In diffuse peritonitis the whole peritoneal sac and the serous covering of all the abdominal organs is affected. The nomenclature of visceral peritonitis is a lengthy one, as it includes all of the abdominal and pelvic organs from which, when the seat of a suppurative inflammation, may become the primary starting point of an attack of localized or diffuse peritonitis.

e. Pelvic Peritonitis.—Inflammation limited to the peritoneal lining of the pelvis and its contents is known clinically and anatomically as pelvic peritonitis. It is an affection almost entirely limited to the female sex, and in the majority of cases is caused by extension of gonorrheal infection from the Fallopian tubes, or a mild form of pyogenic infection from the uterus, its adnexa, or the connective tissue of the parametrium.

f. Diaphragmatic Peritonitis.—Inflammation of the under surface of the diaphragm is described as diaphragmatic peritonitis, and when it assumes a suppurative type and remains limited, leads to the formation of a subdiaphragmatic abscess. This acute localized form of peritonitis is usually secondary to suppurative affections of the liver and gall-bladder, and perforating ulcers of the stomach and duodenum.

2. ETIOLOGIC CLASSIFICATION.

The classification of peritonitis upon an etiologic basis is of the greatest importance and practical value. The nature of the exciting cause frequently determines the anatomic and pathologic varieties. It likewise has a strong bearing upon the prognosis, and often furnishes positive indications as to the methods of treatment which should be adopted. Peritonitis, like every other inflammatory affection, is always the result of infection with pathogenic microbes, usually of the pyogenic variety. The etiology must consider the different avenues through which the microbes find their way into the peritoneal cavity.

a. Traumatic Peritonitis.—Primary peritonitis has usually a traumatic origin; that is, the injury establishes a communication between the peritoneal cavity and the surface of the body or some of the hollow abdominal or pelvic organs, through which pyogenic bacteria enter in sufficient quantity and adequate virulence to cause an acute inflammation.

b. Idiopathic Peritonitis.—The occurrence of peritonitis without an antecedent injury or suppurative lesion is doubted by many. It is too early to deny *in toto* the existence of so-called idiopathic peritonitis, but future bacteriologic examinations of the inflammatory product will, no doubt, reveal a microbic cause in all such cases. As an isolated affection, peritonitis is found most frequently in females during or soon after menstruation. It is probable that the pyogenic bacteria multiply in the blood which accumulates in the uterus and reach the peritoneal cavity through the Fallopian tubes. It is said to have occurred in consequence of exposure to cold, and is then known as rheumatic peritonitis. Occasionally it has been observed as one of the remote manifestations of Bright's disease, pyemia, and the acute eruptive fevers.

c. Perforative Peritonitis.—Perforation of an ulcer of any part of the gastro-intestinal canal, or of an abscess of any of the abdominal or pelvic organs, or of the abdominal wall into the peritoneal cavity, is by far the most frequent cause of acute peritonitis. Two important and frequent causes are appendicitis and suppurative salpingitis.

d. Metastatic Peritonitis.—This form of peritonitis occurs, like other metastatic affections, in connection with suppurative or infectious processes not connected with the peritoneum. In very rare cases it develops in the course of many of the acute infectious diseases, as scarlatina, smallpox, erysipelas, rubeola, and even varicella. It also occurs frequently in the course of septicemia and pyemia.

e. Puerperal Peritonitis.—Peritonitis occurring in connection with septic diseases of the puerperal uterus has for a long time been known as puerperal peritonitis. The infection may extend from the edometrium through the Fallopian tubes, or it may follow the lymph channels or the thrombosed infected uterine veins. Infection through the lymphatics usually results in rapidly fatal diffuse septic peritonisis, while in thrombophlebitis there is a greater tendency to localization, unless the thrombi disintegrate and cause embolism and pyemia.

3. PATHOLOGIC CLASSIFICATION.

The pathologic conditions which characterize the different varieties of peritonitis necessarily must be considered in classifying this disease. The pathologic classification is based almost entirely upon the gross and microscopic appearances of the inflammatory exudation and transudation.

a. Diffuse Septic Peritonitis.—Every acute peritonitis is septic in so far that phlogistic substances reach the general circulation from the inflammatory lesion, and in that frequently the inflammation terminates in suppuration; but the term "septic peritonitis" should be limited to those cases of diffuse septic peritonitis in which, as a rule, death occurs in a few days, and before any gross pathologic conditions have had time to form. It is a disease that is almost uniformly fatal, with or without operative treatment, the patients dying from the effects of progressive sepsis. The claim of operators to have cured such cases by laparotomy must be accepted with a good deal of allowance. The microbes which produce this form of peritonitis are those which follow the lymph spaces and are rapidly diffused not only over the entire peritoneal surface, parietal and

visceral, but also through the subserous lymphatic channels. The disease is observed most frequently after perforation into the free peritoneal cavity of an abscess containing septic pus; rupture, or perforation of any of the abdominal or pelvic viscera containing septic material; gunshot or stab wounds of the abdomen, with visceral injury of the gastro-intestinal canal; and occasionally as the result of infection during a laparotomy. The gravest form of puerperal fever is a diffuse septic peritonitis. The subjects of this variety of peritonitis die so soon after the beginning of the disease that at the autopsy no gross tissue changes are discovered. Besides a slightly increased vascularity, nothing is found to indicate the existence of peritonitis. The septic material, formed in large quantities and of great virulence, is rapidly absorbed by the stomata of the under surface of the diaphragm discovered and described by Von Recklinghausen.

b. Suppurative Peritonitis.—Suppurative peritonitis, that is, an inflammation of the peritoneum which results in the formation of pus, is always more or less circumscribed. This form of peritonitis is the most frequent, and is generally associated with more or less fibrinoplastic exudation. The pus is either serous or seropurulent, or may reach the consistence of cream, when it usually is of a yellow color. The accumulation of pus may be so large that upon opening the abdominal cavity it may appear as though the entire peritoneal cavity and all the organs contained within are implicated, but a careful examination will almost always reveal the fact that a large part of the peritoneal cavity and many of the organs were shut out from the inflammatory process by plastic adhesions. Suppurative peritonitis must, therefore, be regarded from a practical standpoint as a circumscribed inflammation. The appearance and character of the pus are often greatly modified by the admixture of an extravasation accompanying the perforative lesion which produced the peritonitis. If the pus is thin (serous) we speak of *seropurulent peritonitis.* It is a serous peritonitis with the formation of pus in sufficient quantity to render the serum more or less turbid. This subvariety of suppurative peritonitis is without exception in combination with fibrinous exudations, which tend to limit the extension of the infective process. Sedimentation of the solid constituents takes place, so that the fluid contains more of the solid constituents in the most dependent portion of the affected district.

c Serous Peritonitis.—Independently of malignant and tubercular disease of the peritoneum, circumscribed hydrops of the peritoneal cavity is caused by every mild form of peritonitis, the pus microbes present not being sufficient in quantity to produce pus. Patients usually recover rapidly from this form of peritonitis. The slight alterations of the peritoneum produced by the inflammatory process do not interfere with the transudation of serum, and resorption is effected as soon as the inflammation subsides and the normal absorptive function of the peritoneum is restored. Serous peritonitis is usually more or less complicated by fibrinous peritonitis, as fragments of fibrin are often found suspended in the blood. The serum is generally somewhat turbid, not transparent, and grayish-yellow or reddish in color. As long as the fluid is limited in

quantity, it gravitates toward the most dependent parts of the abdominal cavity, in the small pelvis; when more copious it reaches the upper portions of the peritoneal cavity and first seeks the depression on each side of the spinal column.

d. Fibrinoplastic Peritonitis.—The inflammation results in a plastic exudation with little or no effusion. The character of the exudate depends on the intensity and quality of the bacterial cause. The exudation is often so copious that it has been mistaken for malignant disease. The symptoms are marked cachexia, ascites, uncontrollable diarrhœa, and apparent tumor deep in the abdomen. The exudation, in the course of time, contracts, and results in strong bands of adhesion which frequently flex and distort the organs to which they are attached, which has given rise to another term—*peritonitis deformans.*

4. BACTERIOLOGIC CLASSIFICATION.

As the essential cause of peritonitis is always the presence and action of pathogenic microbes and their toxins upon the peritoneum, and as the character of the inflammatory process is largely influenced by the kind of microbes which produced the infection, a bacteriologic classification is of the greatest scientific and practical importance. All pus microbes present in sufficient quantity and virulence in the peritoneal cavity can produce peritonitis.

a. Streptococcus Infection.—The streptococcus pyogenes is the microbe which is most frequently found in the tissues in cases of septic peritonitis. The infection spreads so rapidly over the peritoneal surface and through the subserous lymphatics that death, as a rule, occurs from septic intoxication before a sufficient length of time has elapsed for any gross pathologic lesions to form. Absence of fibrinous exudate and effusion are the most striking negative findings at operations and necropsies. Streptococcus infection is the immediate cause of the most fatal form of puerperal peritonitis. After the peritoneum has once been infected, rapid diffusion takes place, and finally the diaphragm and pleuræ are implicated in the same process, and the patient dies from the effects of progressive sepsis.

b. Staphylococcus Infection.—In peritonitis caused by staphylococcus infection the intrinsic tendency to localization of the disease is more marked; the inflammation results more often in circumscribed suppuration and limitation of the infective process by copious fibrinoplastic exudations. As a rule, the inflammation terminates in the formation of thick, cream-colored pus. Different forms of staphylococci are often seen in the same inflammatory product.

c. Pneumococcus Infection.—It is now well known that pneumonia is produced by different microbes, but the diplococcus is found in about eighty per cent. of all cases. It is this microbe which occasionally is found as the bacteriologic cause of acute suppurative peritonitis. Weichselbaum has found the diplococcus of pneumonia unaccompanied by any other micro-organism in three cases of peritonitis. In one case the peritonitis and acute pneumonia occurred simultaneously; in the other, double pleuritis followed the peritonitis, but in the last case the peritonitis was undoubtedly primary, and in the absence of any other microbes in the

inflammatory product must have been caused solely by the diplococcus of pneumonia.

d. Bacillus Coli Commune Infection.—The bacillus coli commune, a microbe that constantly infests the intestinal canal, is in a fair percentage of cases the bacteriologic cause of acute peritonitis. This microbe possesses pyogenic properties, and in intestinal paresis and perforations escapes into the peritoneal cavity, and usually produces a pathologically mixed form of peritonitis—that is, suppurative and fibrinoplastic peritonitis.

e. Gonococcus Infection—In the peritoneal cavity the gonococcus produces a plastic peritonitis, and sometimes localized suppuration. Salpingoperitonitis and the more diffuse pelvic peritonitis is most frequently caused by gonococcus infection.

f. Tubercular Infection.—The rapid diffusion of the tubercle bacillus in the peritoneal cavity, either through the circulation or by rupture of a tubercular abscess into the peritoneal cavity, or by extension from a tubercular salpingitis, occasionally gives rise to a form of acute peritonitis characterized as such in a modified way by the clinical manifestations which accompany it. According to the intensity of the infection, or the degree of susceptibility of the patient to the action of the tubercle bacillus, the disease assumes one of the following pathologic forms: (1) Tubercular ascites. (2) Fibrinoplastic peritonitis. (3) Adhesive peritonitis. Suppuration takes place only when the tubercular product becomes the seat of a secondary mixed infection with pus microbes.

5. CLINICAL CLASSIFICATION.

A diagnosis for the careful physician and conscientious surgeon must include the location, extent, causation, and pathology of the disease. From the information obtained from the classification already made must be obtained the material upon which to base a clinical classification. Such a classification should serve as a guide in differentiating between the cases which demand surgical intervention and the cases which can be trusted to medical treatment.

a. Ectoperitonitis.—Abscess formation in the subperitoneal connective tissue, as seen most frequently in the pelvis in women, in the cavity of Retzius in men, and in the retroperitoneal space in both sexes, is always attended by inflammation of the under surface of the peritoneum. Such abscesses should be recognized and accurately located sufficiently early to prevent serious complications by an extraperitoneal incision and drainage; or, if the abscess is of a tubercular nature, by tapping, evacuation, and iodoformization.

b. Diffuse Septic Peritonitis.—This form of peritonitis is characterized clinically by the gravity of the general symptoms from the very incipiency of the disease; pathologically, by the rapid diffusion of the infection over the entire serious surfaces, visceral and parietal; and, bacteriologically, by the presence in most of the cases of the streptococcus pyogenes in the inflamed tissues. Staphylococci, pneumococci and the colon bacillus may also be the cause of rapidly spreading diffuse peritonitis. This form of peritonitis usually follows penetrating wounds of the abdom-

inal cavity, complicated by visceral injuries of the gastro-intestinal canal, contusion or laceration of any of the abdominal or pelvic organs, rupture of an abscess or ulcer into the free peritoneal cavity, or the extension of a septic lymphangitis from any of the abdominal or pelvic organs to the peritoneum. Strict aseptic precautions have succeeded in greatly reducing, but not entirely eliminating, the danger from this source in all operations requiring opening of the free peritoneal cavity. In genuine cases of diffuse septic peritonitis surgical intervention is usually powerless in preventing speedy death from toxemia.

c. Perforative Peritonitis.—Perforative peritonitis is manifested by the sudden onset of the disease, by diffuse pain and tenderness, rigid abdominal walls, fever, and vomiting, and by the impossibility by inspection, palpation, or auscultation to ascertain intestinal peristalsis, the latter being almost positive proof of the presence of gas in the free peritoneal cavity. According to the author's observations, meteorismus peritonei in perforative peritonitis caused by affections of the appendix is rare, while he has seldom found it absent in perforations of any other portion of the gastro-intestinal canal. According to the number and virulence of the microbes which find their way into the peritoneal cavity with the extravasation, the resulting peritonitis is either diffuse or more or less circumscribed. The colon bacillus is invariably present in the inflammatory product; but, in addition, streptococci, staphylococci, putrefactive bacilli, the typhoid bacillus, or bacillus of tuberculosis, according to the nature of the primary affection, may also be found.

Perforative peritonitis must be regarded and treated as a strictly surgical disease. The primary lesion must be exposed and treated as soon as a diagnosis can be made, and the necessary measures applied to limit the extension of the infection and to prevent death from toxemia.

d. Circumscribed Peritonitis.—The symptoms appear suddenly, *i. e.*, are preceded by those incident to the primary disease. The severity of the pain and the extent of the muscular rigidity and tenderness will correspond with the extent of the disease. The intensity of the general symptoms are determined more by the nature and virulence of the microbic cause than by the size of the peritoneal surface involved. The inflammatory focus may be limited to a very small space, or it may involve the greater portion of the peritoneal cavity and organs which it contains. Circumscribed suppurative peritonitis is usually the result of infection with staphylococci, bacillus coli commune, and pneumococci. In fibrinoplastic peritonitis surgical interference becomes necessary only when intestinal obstruction is caused by the adhesions. In circumscribed suppurative peritonitis the pus should be evacuated as soon as the disease is recognized, and, if possible, by an extraperitoneal route.—*N. Y. Medical News.*

A physician was recently in attendance upon a distinguished cleric and scholar. Amongst other things the patient was advised to take an enema (with a long *e*). "But, doctor," said the cleric, whose classical ear had been offended, "what about the quantity—the *quantity*, you know?" "Oh! the quantity," said the surgeon; "well, about two pints or so."

NERVOUS DISEASES AND TELECRO-THERAPEUTICS.

IN CHARGE OF
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A CASE OF AMNESIA.

BY EDWIN R BISHOP, M D., SHEPPARD ASYLUM, BALTIMORE, MD.

On September 26th of 1896 a man came to Sheppard Asylum and asked to be admitted. He gave the following history: On August 28th last he found himself walking on the road; he saw a city some distance away and walked into it; feeling hungry, and passing a restaurant, he went in, ordered some food, ate, and paid for it. He did not recognize his surroundings, so he paced up and down a street until accosted by a policeman, and was surprised that he could tell nothing about himself, not even his name. He was taken to the police-station, and from there to the Maryland University Hospital, where, upon examination it was discovered that up to the moment that he found himself wandering on the road in the suburbs of the city his mind was a complete blank. There was nothing on his person except a few cents and a railroad time-table, and nothing whatever to identify him. He was given the name of John Smith by the hospital people and remained there four weeks. While there he met several locomotive engineers, who found he knew the parts and management of a locomotive, and from that inferred he must have been a railroad man. He was discharged from the hospital, but being unable to find work he applied to the police, who sent him to the Sheppard Asylum.

When admitted into Sheppard he had the appearance of a mechanic, about thirty years of age, was neatly dressed, well-formed physically, and free from any of the stigmata of degeneration. His accent was northern, he seemed fairly intelligent, talked well, and wrote a good hand. When questioned about locomotives or machinery he answered correctly, and had a vague idea of some simple historical facts, saying, in reply to a question, that George Washington discovered America in 1492, and was the first President, but his own life was still a closed book. The University Hospital authorities corroborated his history while there, except that during the latter part of his stay he had been delirious for three days.

About a week after admission he voluntarily wrote the names of several Western cities, saying he thought they were the names of places. One of them was Sheridan, Wyo., and when the names of several Sheridan people were mentioned he remembered them, and also voluntarily mentioned the names of several others.

Upon inquiry it was found that the patient had a wife in Washington, D.C., who gave the following facts: The patient has a good family his-

tory, and up to last November had always been well and strong, though dissipated at times. He was a locomotive engineer, and early in November, 1895, he fell from his engine, striking on his head, and was carried home unconscious, and for three weeks complained of severe pains in cerebral vertex and lumbar spine. Following this he seemed to be more dissipated and unreliable. In January, 1896, he went to Sheridan, Wyo., where his drinking bouts soon began and were often repeated. I am informed by his attending physician in Sheridan that these attacks would begin with severe pains in vertex and lumbar spine, and were always accompanied by maniacal symptoms and marked loss of memory of events immediately prior to the attack. Toward the latter part of April he was maniacal for two weeks, and was sent to a hospital in Galesburg, Ill., where he spent two or three weeks, of which I have not been able to procure the particulars. During June, July, and up to the middle of August, he led a precarious existence in Chicago, getting drunk at times, and spent two weeks in a hospital, after terrorizing the people at his boarding-house by crawling about the floor and uttering peculiar sounds. From the middle to the 28th of August, the day he found himself walking on the road near Baltimore, nothing is known of him, but it is supposed he attempted to follow his wife to Washington, and was overtaken by one of his drinking attacks, accompanied by the amnesia in which he was found.

I regret that I cannot follow the subsequent history of the case, who, being disowned by his wife, was discharged from the asylum on the 24th day of October, and on the 6th of December I received a message from Parkersburg, W. Va., that he was arrested in an insane condition, but my inquiries regarding his symptoms have not been answered.

The amnesia of this case results from two casual factors: one, the frequent recurring attacks of drunkenness, influenced undoubtedly by the cerebral concussion due to falling from the locomotive last November. The destructive effects of alcohol upon the memory are evident in every dissipated man, from the dipsomaniac who is unable to recall many of the important events of his debauch, to the chronic inebriate whose memory steadily degenerates along with his other mental and moral faculties. Such cases are mentioned in all works on mental medicine. Bevan Lewis classifies an amnesic form of chronic alcoholism. Of it he says, "The most notable feature characterizing this class is the peculiar failure of memory; an instantaneous forgetfulness of events which have only just occurred. Every degree is found, from slight retentiveness up to a complete and almost immediate abolition of the latest impression."

We can only conjecture how far the patient's state was influenced by the cerebral concussion. He was reputed to have been a healthy, industrious workman, though given to drinking at times, before the accident; but soon after, his drinking attacks became frequent, each attack accompanied by maniacal symptoms, severe pains in the cerebral vertex and lumbar spine, and loss of memory of events immediately previous to the attack. These mental symptoms, together with the attack of delirium reported to have occurred during his last week in the University Hospital, and after three weeks abstinence from liquor, point to a probable organic brain lesion, though when he came under our observation he

had no symptoms referable to brain injury, no disorders of sensation or motion, no eye or speech symptoms, reflexes normal, and no local signs of traumatism. This lack of permanent mental and physical symptoms does not preclude a cerebral lesion. Erichsen says of the after effects of cerebral concussion, "recovery may be complete, but a permanently irritable state of the brain may be left; the patient, though capable of the ordinary duties of life, becoming readily excited by slight excesses in diet or the use of stimulants or by mental emotion, though not of an inordinate intensity." Lasègue gives the name "cérébraux" to patients in this condition, and aptly describes them, "when the health cerebral condition has been disturbed, be it only for one moment, by an injury, by a lesion of the brain, or by malformation of the skull, cure often means only suppression of the symptoms. The patient, supposed to have recovered, has acquired only a morbid diathesis which governs the rest of his life. He becomes subject to mental or physical disorders, which repeat themselves most commonly under the form of incomplete and irregular crises, and break the solidity of pathological laws, and which we have to study as a special kind of cerebral affection."

We have, then, a man whose cerebral substance has been so affected by concussion due to a fall on his head from a height of about six feet, that marked mental changes soon appear. He becomes nomadic in habits, has frequent attacks of intemperance, each attack being accompanied by localized pains, maniacal outbursts, and defects of memory that are characteristic of the amnesia of concussion, in that they are retroactive, extending to events prior to the onset of the attack, and finally an attack of almost complete amnesia, lasting, we know, for eight weeks, and probably for a very much longer time. If he could have been kept quietly in a hospital and away from the exciting influences of a free life very much of his former history would probably have been restored to him, as indicated by the faint glimmers he had before he left us. The case, I take it, is one of suspended function, a state of inhibition, and could he have remained under treatment long enough, his normal function would probably have rehabilitated itself.

It is interesting to observe the extent of this man's amnesia. It bears out the law of reversion or regression so well elaborated by Ribot in his "Diseases of Memory." He enunciates six general conclusions, which in part are, "In cases of general dissolution of memory, loss of recollection follows an invariable path; recent events, ideas in general, feelings, and acts. In each of these classes the distinctive process is identical It is a regression from the new to the old, from the complex to the simple, from the voluntary to the automatic, from the least organized to the best organized. Recollections return in an inverse order to that in which they disappear." This man retained most of his automatic, well-organized memories, but most of his more purely intellectual memories were in a state of inhibition. His recollection of machinery is due to the persistency which memories of motor acts endure, due, as Ribot says, to the "necessity for a great number of cells and nerve filaments, for the conservation and reproduction of a movement, however simple, implies an equally great possibility of permanence and revivication," and speaking

of the type of amnesia in our case he says, "neither habits nor aptitude for mechanical work, such as that for sewing, embroidery, nor the faculty of reading or writing a native or foreign language is in the least affected. It is hard to understand why this man should have retained any recollection of George Washington and none of his own name, for surely the latter memory was better organized than the former. It is one of those unusual exceptions that are said to prove every rule.

THE VALUE OF A KNOWLEDGE OF NEUROLOGY

The Boston *Medical and Surgical Journal* contains an editorial on the above subject which is pat and so in accord with neurological and clinical observation, that we take pleasure in presenting it entire with our unqualified endorsement:

The majority of medical students seem to regard the subject of neurology as something metaphysical and mysterious, a field apart from that of the rest of the science of medicine, and one which is only cultivated by persons of a peculiar squint-brain mould who devote themselves to it more to beguile the tedium of an elegant leisure than with any serious idea of benefiting humanity. They scoff, moreover, at the limited scope of its therapeutics, and attempt to stifle its *raison d'etre* with the sneering remark that "all you can do is to give iodide—and a bad prognosis;" and they even go so far as to glory in their profound ignorance of nervous disease, and studiously avoid the clinics.

It should be impressed upon such men that in so thinking and doing they are thereby throwing away the most splendid opportunity which is offered to them throughout their whole medical course, of training the two faculties most essential to the successful physician—the faculties of observation and of logical induction.

The trouble with most students who are placed before a clinical case is that, in getting at historical data, they fail to eliminate the irrelevant, and mass the essential; and, secondly, that they are too prone to jump at conclusions concerning a single organ without giving due consideration to the organism as a whole.

To eradicate such defects falls peculiarly within the power of the neurological instructor; for the very nature of nervous cases, with their unlimited multiplicity of symptoms, is such as to educate his perceptive and reasoning faculties to the highest degree, and thus enable him to impart a clearer insight into the working of the human machine, energized and regulated as it is by the great cerebro-spinal apparatus, than is possible to the worker in any other field of the science.

His distinctly neurological habit of careful and exhaustive examination, with its attendant systematic array of findings and logical inferences therefrom, cannot but have a profound influence in shaping the course of the future physician's work in a way which will at once distinguish it from the ordinary and sloven.

Moreover, it cannot be argued that such a training will make a man see everything from a neurological point of view; it is too broad and thorough. On the contrary, it will enable the future surgeon to be

something more than a mere mechanical factor in operative cerebro-spinal diseases, a position which certain surgeons most conspicuously occupy at present. It will impart to the man of gynecological proclivities a more just appreciation of nervous phenomena which are only too frequently incorrectly attributed to uterine diseases, and enlarge his field of vision beyond a single organ and its adnexa; and, finally, it will rid the man who is to follow the path of general practice of that most senseless notion that the nervous system is a thing apart, and teach him to note the marks of its influence either as a valuable ally or as a treacherous antagonist in every case he meets.

One of the most important reasons for the narrow scope of nervous therapy as regards organic diseases is that many such cases are, when in their curable stages, in the hands of a family physician, and the vague but unequivocal signs which they give are, through his indifference—or ignorance—overlooked. This is especially true of that large class of nervous diseases which is the result of the virus of syphilis.

As regards the cases which are really chronic from the start, a practical knowledge of neurology will enable the physician to alleviate suffering even if he cannot cure, and, what is of chiefest importance, prevent him from exaggerating the disease by indulging in a wholesale and irrational exhibition of strychnia, bromides and iodides.

There is absolutely no reason why the sufferer from incurable nervous disease should not obtain at the hands of his medical attendant the same solicitude and studied attention to the alleviation of symptoms as does the victim of chronic heart, lung or kidney trouble, but that he generally fails to get either is a fact which obtains and will continue to do so until a broader and more rational knowledge of neurology is, by compulsion, if necessary, incorporated into the general mass of medical information which is required of the men who leave our medical schools.

BED TREATMENT.—Dr. A. Bernstein (of Moscow) *Annales Medico-Psychologues*, IV. No. 1, January, 1897, reports on the results of this method for the acutely insane as shown in a year's experience in the psychiatrical clinic at Moscow. He finds it practicable beyond expectation, and that under this method of treatment the manifestations of the mental disorder become less intense, the motor excitement is reduced to a minimum, the intellectual excitations diminished, the delirium is milder and monotonous. He deduces from this no general conclusions and leaves the future to decide whether the contraction, so to speak, of the intellectual horizon tends to repose of the brain or to a durable mental decadence. The experience of the Moscow clinic proves only one thing, viz., the negative finding that recovery is not more prompt and frequent than under the former methods with all their disadvantages. In this he admits that he is in disagreement with some others who have reported on the results of this treatment elsewhere, but he appeals, apparently with reason, to their own statistics in support of his opinion.

He deprecates the zeal for this new method which would make it a routine treatment, disregarding the individual needs of every patient, but believes it an advance as aiding to do away with seclusion, untidiness, and destructiveness, and the costly and objectionable appliances hitherto employed to meet these requirements.

PAHOTLOGY AND BACTERIOLOGY.

IN CHARGE OF

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VACCINATION AGAINST TYPHOID FEVER.

In the *Deutsche Medicinische Wochenschrift* for November 12th, 1896, Pfeiffer and Kolle, of the Berlin Institut für Infectionskrankheiten, announce the results of certain experiments undertaken to determine the possibility of protecting healthy subjects from typhoid fever by inoculating them with dead cultures of typhoid bacilli. These researches were inspired by the achievements of Haffkine in protective inoculation against cholera. In India, last year, over 100,000 people were inoculated with cultures of cholera bacilli, and the immunity which was secured by this treatment is sufficient to justify the belief that a valuable means of arresting the spread of cholera epidemics has been discovered.

Pfeiffer and Kolle, in their experiments, used a virulent culture of typhoid bacilli obtained from the spleen. A cubic centimetre of a bouillon preparation of this culture, rendered absolutely sterile by heat, was injected under the skin of individuals who were known not to have had typhoid fever. The inoculations were followed in a few hours by shivering, malaise, vertigo, and fever, the symptoms persisting for twenty-four hours. The blood-serum of these subjects, drawn six and eleven days after the inoculations, was found to have a distinct immunizing power when injected into lower animals. Serum obtained six days after the operation had the power of saving a guinea-pig into the abdomen of which an otherwise fatal dose of a typhoid culture had been injected. Serum drawn at the eleventh day had even a greater protective influence. The authors conclude that it is more than probable that the appearance of specific bactericidal substances in the blood of individuals who have had typhoid fever represents the chief cause of the immunity possessed by them. If this is correct, then it is to be expected that these prophylactic inoculations with killed typhoid cultures can produce an immunity of equal intensity and duration as that found after an attack of typhoid fever.

From a paper recently published by Wright and Semple (*British Medical Journal*, January 30th, 1897,) it appears that Pfeiffer and Kolle were not the first to employ antityphoid vaccination. The former experimenters, acting on a suggestion made by Haffkine, made a number of inoculations in the summer of 1895, which were subsequently recorded in the *Lancet* for September 19th, 1896. Wright and Semple employ

a vaccine made from agar cultures of typhoid bacilli which have been grown for twenty-four hours at blood-heat, and which are then emulsified by the addition of a measured quantity of sterile broth. The emulsion thus obtained is drawn into a series of glass tubes, which are finally sealed and subjected to a temperature of 60° C. for five minutes, in order to render their contents completely sterile. Generally the typhoid culture employed was of such a strength that one-fourth of a tube constituted a lethal dose for a guinea-pig of 350 to 400 grammes when hypodermically injected. From one-twentieth to one-fourth of a tube was employed for the antityphoid vaccinations, the fluid being injected into the flank.

The researches of Pfeiffer, Gruber, Durham, and Widal have furnished an excellent method of determining the effect of these protective inoculations. To quote from the paper of Wright and Semple referred to, Pfeiffer and his followers have demonstrated that whenever the microorganisms which are casually associated with a specific fever are brought in contact with the serum or plasma of an animal or a patient who is undergoing or has undergone an attack of the specific fever in question, the following succession of phenomena manifests itself: (*a*) The bacteria become agglutinated together; (*b*) the bacteria lose their motility; (*c*) the clumps of agglutinated bacteria sink to the bottom, and the culture fluid, which was previously evenly turbid, becomes clarified; (*d*) the bacteria shrink up into the form of minute spherules; (*e*) lastly, the bacteria are definitely devitalized. Of these phenomena the sedimentation of the bacteria serves best as a criterion of the specific power of the serum, and the extent to which the serum possessing this specific power may be measured by determining how far the blood may be diluted before it forfeits its sedimenting property.

The subjects vaccinated by Wright and Semple were eighteen medical officers of the army, and in every instance was the sedimenting power of the blood developed within from one to four days. In the majority of cases the power was not lost after fifty or even one hundred-fold dilution. If vaccination invariably produces the specific changes in the blood which have been described, the belief is not unwarranted that the vaccinated blood will exert such a deleterious influence on the bacilli of typhoid fever as will result in the effectual protection of the patient against that disease.

At present it is impossible to state the duration of the immunity thus artificially acquired, but, judging from the extremely slow disappearance of the perfectly comparable sedimentation power which is acquired by undergoing an attack of typhoid fever, there is every reason to hope that the immunity which is conferred by these vaccinations may persist for a considerable number of years, and suffice to carry the young adult over the period of his extreme susceptibility.—*Univ. Med Mag., Mar. 1897.*

THE CAUSE OF DEATH FOLLOWING BURNS.

Ajello and Parascandolo conducted numerous investigations concerning the cause of death after burns, and conclude that the deaths are

caused by toxic ptomaines. Death is not due to the toxin of the bacterium proteus, nor to any anatomical changes which the blood or burnt parts may suffer. The ptomaines of burnt organs are the same when the organ is first removed from the body and then burnt. Healthy animals inoculated with this die with the same symptoms as burnt animals. Death after burning is, therefore, due to the absorption of ptomaines produced by chemical changes in the tissues due to burns. The immediate removal of the burnt part prevents this absorption, and consequently all specific symptoms of the burn and death. The same objects may be attained by venesection and the immediate transfusion of healthy blood or artificial serum.—*Gazz. degli Ospedali e delle Clin.; Centralblatt für innere Medicin.*

NEURASTHENIA.—An excellent nerve tonic and sedative is:

Quinine valerianate	40 grains
Iron subcarbonate	80 grains
Arsenous acid	1 grain
Strychnine sulphate	1 grain
Asafœtida	120 grains
Extract sumbul	60 grains

Make forty-eight capsules. Take one after each meal.

SERUM DIAGNOSIS OF TYPHOID FEVER.—Widal and Sicard (*Sem. Méd.*, February 24th, 1897) have tested the agglutinative action of serum taken during the fever, during a relapse, or during convalescence in 21 cases of enteric. They find that (1) if different proportions of the serum are added to broth cultures of the bacilli incubated for one or two days, successive microscopical examinations show that the limit of the agglutinative power is reached after one or two hours; (2) microscopically the clearing of the broth culture mixed with the serum is perceived only after several hours in the incubator; (3) the serum keeps its power for several days—an important point as regards sending specimens of blood for examination; (4) while in mild cases the agglutinative power may be slight, yet the extent of the reaction is no index of the severity of the case; (5) the curve of the reaction traced through the whole course of the illness is a variable one; it is sometimes slightly marked at first, and increases progressively, or it may remain the same all through; as a rule it diminishes more or less rapidly during convalescence, or even during defervescence, sometimes with remarkable rapidity, but exceptionally it lasts for months or years; (6) it is, therefore, essentially a reaction of the infective period, and cannot be, as is often supposed, a reaction of immunity. Agglutination caused by the serum of artificially-immunized animals was first described by Charrin and Roger, and is quite distinct. The authors, in fact, introduced serum diagnosis after discovering this distinction.—*Brit. Med. Journal.*

NOSE AND THROAT.

IN CHARGE OF

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THE TREATMENT OF WOUNDS OF THE AIR PASSAGES.

By J. E. PLATT, M.S.Lond., F.R.C.S.,

Late Resident Surgical Medical Officer Manchester Royal Infirmary.

This subject does not appear to have received quite so much attention as it merits, and hence, having had opportunities of observing an unusually large number of cases, I venture to record my results, together with a brief account of certain improved details of treatment. Until a few years ago almost all authorities discountenanced the use of sutures in wounds opening the air passage. The risks to the patient were thereby greatly increased, and death often occurred from septic broncho-pneumonia or other inflammatory complication; at the best convalescence was tardy, and permanent aërial fistula or stenosis of the larynx or trachea frequently resulted. In 1892, however, Henry Morris[1] recorded a number of cases in which he had applied sutures with success, and Pollard[2] advocated the same treatment; but although other surgeons have from time to time reported isolated successful cases, it would appear that a large number of these wounds are still treated by the older method of non-suture.

During the two years whilst I was resident surgical officer at the Manchester Royal Infirmary 35 patients suffering from suicidal wounds of the throat were admitted to that institution. In 10 of their number the air passages were injured, and in 25 the wound was comparatively superficial.

From an analysis of the cases it would appear that the position of the wound was as follows:

Above hyoid bone	1
Thyro-hyoid membrane	3
Crico-thyroid membrane	3
Through trachea	1
Through thyroid cartilage and crico-thyroid membrane (2 wounds)	1
Through trachea and crico-thyroid membrane (2 wounds)	1

In both cases where the trachea was injured, this tube was completely divided, the muscular fibres of the œsophagus being exposed.

Of the 10 cases, 2 died, 7 recovered, and 1 made an incomplete recovery. The first fatal case (Case i.) was a man who had an extensive wound situated above the hyoid bone, and opening the pharynx. No sutures were applied; the patient sank gradually, and died from heart failure eight days after admission. With this exception all the wounds were sutured shortly after the accident. The other fatal case (Case viii.) was a very feeble man with a wound of the crico-thyroid membrane, who died on the eighth day from acute croupous pneumonia. The pneumonia was probably set up by the entrance of cold air into the lungs through the wound at the time of the accident, and was aggravated by the generally diseased condition of his organs. There was no sign of septic pneumonia, and hence the *post-mortem* appearances of this case rather justify than condemn the local treatment which was adopted. The case of incomplete recovery (Case v.) was one in which the sutures holding together the ends of a divided trachea gave way, and thus permitted cicatrical contraction and subsequent stenosis. The remaining 7 cases made complete, and in most instances uninterrupted, recoveries; their average stay in hospital was eighteen days, and four of the number healed without the occurrence of suppuration.

The treatment adopted was not the same in all cases. Many improved operative details suggested themselves from time, and I therefore propose to give a short account of what I consider the best method of dealing with these wounds.

Whenever the condition of the patient permits he should be placed under the influence of an anæsthetic, the wound carefully cleaned, and the opening in the air passage closed by sutures. Not infrequently the patient is suffering greatly from shock when first seen, but if the primary hæmorrhage be arrested, he will usually rally sufficiently in the course of a few hours to bear the administration of an anæsthetic. If he have lost much blood, it may be advantageous to transfuse one or two pints of saline fluid into the veins.[3]

The best anæsthetic in these cases is undoubtedly chloroform. During the earlier stages of the operation its administration is often difficult, owing to the patient drawing in more or less air through the wound, but during the later stages, when the air passage has been closed, it can be given with much greater facility.

Having cleaned the wound with antiseptic lotion, and arrested all hæmorrhage, the surgeon must decide whether he will completely close the air passage or will put in a tracheotomy tube. On this point it is impossible to lay down a definite rule; in many instances it is undoubtedly quite safe to close the wound in the air passage, and I adopted this procedure in 5 cases, 4 of which were successful. There is, however, some risk of subsequent œdema of the vocal cords, a certain amount of which was present in the fatal case already referred to, although in this patient death was due to an independent cause. If the wound be extensive, almost or quite dividing the larynx or trachea, it is better to employ a tube, and the same rule should be followed if the larynx be opened in

the immediate vicinity of the vocal cords. Further, in wounds of the thyro-hyoid membrane, if the epiglottis be extensively injured, it is wise to perform the laryngotomy or high tracheotomy before closing the laryngeal wound entirely by sutures.

Should it be deemed advisable to employ a tracheotomy tube, I am very strongly of opinion that it should not be introduced through the suicidal wound in the air passage, but that a fresh vertical cut should be made at a lower level for its insertion. After suturing there is considerable strain on the wound, owing to the movements of the larynx and trachea, which cannot be kept entirely at rest, and the risk of yielding of the sutures is greatly increased if they be weakened by a portion of the wound being left open in front for the insertion of the tube, and if they be subsequently disturbed by the changing of the tube for purposes of cleaning. In two of the earlier cases the tracheotomy tube was introduced through the suicidal wound; in one (Case iii.) the tube was removed on the fourth day, but although the sutures did not give way, an opening into the larynx was left which did not heal for nearly a month; in the other case (Case v.) the trachea was completely divided, the ends being retracted for nearly an inch; they were approximated by sutures, and a tracheotomy tube was put into the anterior part of the wound; the tube was removed on the fifth day, but a few days later all the sutures gave way, cicatrical contraction gradually took place, and the man recovered with permanent stenosis of the trachea. I regret very much the incomplete recovery of this patient, for I have little doubt that if a fresh opening had been made for the tube he would have recovered completely, and would not have been condemned to wear a tracheotomy tube for the rest of his life. In two cases (Nos. iv. and ix.) a tube was considered advisable, and a fresh vertical cut made for its insertion; in both the tracheotomy wound healed rapidly after the removal of the tube, illustrating the fact that vertical cuts into the larynx or trachea as a rule unite much more readily than transverse cuts. It is usually unnecessary to make a fresh incision through the skin in order to open the trachea for the insertion of the tracheotomy tube. If the œsophagus or pharynx be injured, the opening must be closed completely by fine sutures introduced by means of a curved needle.

Attention should now be turned to the suturing of the wound in the air passage, a procedure requiring great care and patience. Full-curved needles held in a needle-holder will be most useful, and it will be found best to introduce all the sutures before tying any. The sutures should be prevented from penetrating the mucous membrane, but they should be made to include a considerable portion of the fibrous and cartilaginous parts of the tube. Having introduced as many sutures as are necessary to close the opening completely they must be tied, the posterior parts of the wound being first brought together. As to the number of sutures, in cases where the trachea is completely divided from eight to ten will be necessary; other cases will require a smaller number, according to the size of the wound. The material I have chiefly used for sutures in these cases is silk, recently sterilized by boiling; it is strong and reliable, and is only open to the objection that if suppuration takes place it may give

rise to subsequent trouble (Case x.). This disadvantage, however, is far outweighed by the disadvantages of catgut, which is unreliable when there is so much tension.

Having closed the air passage, the other parts of the wound must be treated in accordance with ordinary principles. The sterno-mastoid and infra-hyoid muscles are usually more or less injured, and it is necessary to approximate the retracted end by sutures. Owing to the platysma muscle being divided transversely there is usually great inversion of the skin, which must be corrected before the edges of the wound can be brought in good apposition. Frequently there are several secondary cuts —I have seen as many as fifty—from the presence of which the edges of the main wound are often jagged and require trimming before they can be sutured satisfactorily. It will usually be necessary to insert a small drainage tube at one or both angles of the wound. Throughout the operation it is essential to adopt all antiseptic precautions, for it is only by care in this respect that the systematic suturing of the wounds of the throat has been rendered safe. If all precautions be taken it will be found that a very large proportion of the wounds will heal by primary union.

SUBSEQUENT TREATMENT.

If a tracheotomy tube have been used, it is well to place the patient in a steam tent for twenty-four or forty-eight hours. Provided that no bad symptoms arise, the tube may be removed with safety on the second, third, or at the latest the fourth day. In some cases I have retained the tube for a longer period, but I now regard this as unnecessary, and as calculated to prolong the period of recovery. The dressing on the wound will require frequent changing, especially if a tracheotomy tube have been used. The skin sutures, unless they are causing irritation, should be left *in situ* for ten or twelve days; if removed earlier there is risk of the scar giving way. Throughout the treatment it is essential to keep the parts at rest as much as possible, but I see no necessity for adopting the old method of bringing down the chin to the sternum; all that is necessary is to keep the patient recumbent with the head raised on an ordinary pillow, and to steady it by a band across the forehead and a sandbag on each side. One of the most important questions in the after-treatment is feeding. I am convinced that it is unnecessary in most cases to feed by a tube or by the rectum, and that the patient may with safety be allowed to swallow fluid food. In cases, however, where the epiglottis is injured, where the larynx or trachea is completely divided, or where the pharynx or œsophagus is opened, it is best to adopt rectal alimentation for two or three days.

The use of sutures is also advisable in all cases of suicidal wounds of the throat not involving the air passage, provided that the general condition of the patient is sufficiently good. Of the 25 cases of this description which came under my notice 21 were treated by primary suture, 19 of which healed by first intention; 1 was packed with iodoform gauze and allowed to granulate, and 3 died, all within a few hours of admission. The fatal cases were (1) a man, aged 43, who was in the last stage of

phthisis, who was moribund when admitted, and died an hour and a half afterwards; (2) a man, aged 35, who had lost a great deal of blood, and who died four hours after admission; and (3) a man who had attempted suicide during the delirium of pneumonia, and who died fourteen hours after his arrival at the hospital.

SUMMARY.

1. Suicidal wounds of the throat should be treated by primary suture in all cases where the general condition of the patient permits.
2. Antiseptic precautions are most important.
3. If necessary, chloroform should be administered, and is perfectly safe.
4. Divided muscles should be sutured, and in bringing together the edges of the skin the inversion caused by the platysma muscle should be corrected.
5. The wound in the air passage should be completely closed.
6. In many cases it is quite safe to dispense with the use of a tracheotomy tube. If a tube be deemed necessary it should not be introduced through the suicidal wound in the air passage, but through a fresh vertical cut at a lower level.
7. Silk is the best material for suturing the larynx or trachea.
8. During the after-treatment it is unnecessary, except in certain special cases, to feed by a tube or by the rectum.
9. If the above methods of treatment be adopted, not only will a very large proportion of even dangerous and extensive wounds of the air passages recover, but the period of recovery will be greatly shortened, the patient will not be exposed to the same risks of secondary inflammatory complications, and he will be much less liable to the occurrence of permanent stenosis of the trachea or the formation of an aërial fistula.

I have to thank the honorary surgeons of the Manchester Royal Infirmary for their kind permission to publish these cases.

REFERENCES.

[1] *Lancet*, 1892, vol. ii, p. 1427. [2] *Ibid*, p. 1532. [3] A case of wound of the common carotid artery and internal jugular veins in which recovery followed ligature of the injured vessels and transfusion of saline fluid has been recorded by W. T. Thomas, *British Medical Journal*, 1895, vol. ii, p. 1420.

NASO-PHARYNGEAL ADENOID VEGETATIONS.—"Dr. Greville Macdonald opened a discussion in the British Laryngological Association on the indications for, and the method of removal of, these growths, and formulated the rule that the necessity for operation depended not in the extent of the growths, but in the mischief they were causing. Dr. Dundas Grant preferred the upright position, and the administration of nitrous oxide gas in performing the operation."—B. M. J., May 22nd, 1897.

We have of late operated in these growths in seven cases, where the anæsthetic used was nitrous oxide, or a combination of this gas with oxygen, and distinctly prefer this method when practicable. The advantages are: 1. The upright position. 2. The lessened danger of drawing the blood into the larynx. 3. The comfort of the patient after the operation. 4. The greater safety to the patient. 5. The saving of the operator's time. The cases most favorable for operation by this method include those children where the naso-pharyngeal growth is not compli-

cated by enlargement of the tonsils, and does not present unusual conditions; and adults generally, as here, even if the tonsils are enlarged, there is space sufficient in which to work.

The anæsthesia passes off quickly, seldom lasting more than forty-five seconds. The operator must therefore know his work, but if expeditious he may be able to remove the tonsils as well, if necessary. W.

NAUSEA AND VOMITING OF PREGNANCY.—Dr. Edward P. Davis reports as follows in the *Am. Gyn. and Obstet. Jour.:* He is impressed with the frequency with which he found some organic change in the structure or dislocations of the uterus. Antiflexion of the uterus and a great increase in thickness of the cervix were the most constant anomalies found. These two conditions combined caused a great irritation of pelvic nervous system, resulting in a tonic spasm of the uterine and pelvic muscles. In most cases this spasm was a veritable "pelvic tenesmus." The nervous irritation radiated from the pelvis; a most secondary effect being an inhibition of the physiological functions of the digestive tract. The pancreatic biliary and intestile secretions are reduced to a minimum. A general sympathetic disorganization follows, and the case frequently becomes desperate. Pain is an almost constant symptom, but it is indefinite in locality, being distributed over the entire pelvic region and radiating to the epigastric and sternal regions. The author attaches great importance to the presence of liberated hematin, which is found in the feces and urine. This indicates a destruction of the blood.

The vomiting is most distressing and brings on exhaustion and emaciation in most cases.

The treatmeut of cases varies. When the nausea and vomiting are slight the patient will be greatly benefited by a sojourn in bed. The abdomen should not be confined by clothing; constipation is usually present and should be corrected by alkaline water, which will have a very favorable influence on the stomach at the same time. Careful nursing and dieting are most essential. If symptoms of auto-intoxication appear they may be met by stimulating the skin, kidneys and intestines to increased action. Lavage of the stomach is valuable, but it must not be performed too often, causing an increase of the gastric irritation. Mild and prolonged counter-irritation over the gastric region is useful. The skin must be mildly stimulated by warm sponging and frictions, alcohol, etc.

Sedatives must be avoided, as they rapidly disturb digestion and assimilation. Codeine is the best, when any are needed.

Local treatment is very important. The uterus must be placed and maintained in its proper anatomical position. In antiflection the uterus must be forced high enough to relieve any dragging down of the tubes. If replacement does not alleviate, cervical dilatation is indicated. Under chloroform the cervix may be dilated with the finger or instrument.

If no improvement follows these treatments an interruption of the pregnancy must next be considered. If the digestion is profoundly affected, causing progressive emaciation, and if the destruction of the blood is shown by escape of hematin, there can be no doubt ot the wisdom of a termination of pregnancy. Dilatation followed by complete evacuation of the ovum and appendage must be performed.

THE ONTARIO MEDICAL ASSOCIATION.

This association held its seventeenth annual meeting in the Normal School, Toronto, June 2nd and 3rd, under the presidency of Dr. John Coventry of Windsor.

After routine business, Dr. J. L. Davison, Toronto, read a paper on Serum Therapy, which will appear in a later issue of this journal. He was followed by Dr. T. F. McMahon, Toronto, who gave the results of his experience in 70 cases. He was wholly in favor of the remedy. Early exhibition is necessary to secure the best results.

Dr. J. T. Fotheringham, Toronto, followed with an excellent paper on Modern Therapeutics, which will also appear in full in this journal.

At the afternoon meeting Dr. J. A. Williams, of Ingersoll, read a paper on Inertia of the Uterus following the use of chloroform, which will be published later *in extenso*.

In speaking to this paper Dr. Temple thought the length of the labor was the cause in this case. He advised the use of whisky or brandy as an intrauterine douche to stimulate contractions, never failing to use sufficient quantity.

Then followed the President's address, a thoughtful and interesting paper. After introducing his subject the essayist said:

"Where is the family physician of the past? A quarter of a century ago he was as much a social as a professional factor in family life. To-day, except in the country, he exists more as a 'holy memory' than as an active and trusted quantity. He may still be retained as an occasional family adviser, in a sort of abstract way, but his laurels are already on the brow of his juvenile coadjutor—the hustling specialist This may be for the public weal, or the public woe, but the fact remains that the old and trusted family physician is passing into oblivion, appearing occasionally on the horizon as a mirage reflected by a Maclaren when he invokes the shades of Drumtochty. Have any of you considered the cause of this decadence? Is it for want of individuality in the man himself? Want of training? Want of application? Want of skill? Has the adoption of commercial standards, or mercenary methods, on the part of himself or his rivals anything to do with it?

"Whatever the causes are, we find him to-day split up into specialities, and the average family has taken on a sort of centrifugal action with respect to their ailments. The Major Domo has had a long standing hæmorrhoidal affection, and a 'Rectal Specialist' has him in hand. Madame, in the struggle of maternity, has received injuries which she thinks require the services of a Gynecologist.

"The elder son has a pain in his back and is doing his own 'doctoring.' The patent medicine advertisement is getting its deadly work in on him, and his pocketbook—and his back still aches.

"The elder sister has trouble with her eyes, and an alleged oculist is treating them.

"Another scion has a 'catarrh' so called. He is in the hands of a 'Throat and Lung Institute.'

"Another daughter has a friend who has an unrevealed trouble, and

goes twice a week to a doctor (?) who cures all his patients with electricity, and the young lady is easily persuaded to try him for—consumption.

"A younger brother has an unseemly eruption, and a 'Skin Specialist,' after exhibiting the pictures and the pickles in his office, promises him a 'skin like velvet,' but he will have to take medicine for six months.

"I am not prepared to account for this state of things, but I may be pardoned if I suggest that some of us are largely responsible for it ourselves.

"I am more than justified in making the suggestion that a few months spent in a post-graduate course every five years would be of incalculable benefit to him, and *Alma Mater*, when with benedictions and a diploma, she sends forth her neophyte to heal the sick, should reserve the appellation of 'graduate' in its broad sense, and the warrant to practice his profession should be made contingent on his return every five years for revision, instruction and further promotion.

"A short practical course with this object in view could easily be devised and carried out by every medical teaching body, and the result would be a boon to the profession, a benefit to the public, and the fractional tendency of the age would be greatly reduced.

"Did time permit, I would like to add my protest against the debasing practice of contract lodge work.

"Vampire never bled its prey more mercilessly than the pseudo-benevolent societies have the lodge-doctors. While wholly dependent on them for existence, the lodge committees have dictated a ridiculous fee for his services, and the plastic physician by his acceptance of it has signed an acknowledgment that he has joined the army of men who are doing business by giving 'a quarter off,' 'tremendous bargains,' 'slaughter sale,' or 'cut-rate tickets.'

"Nowhere is the medical profession 'on the down grade' so much as in pandering to this influence, and, left to their own impulses, as they have been in the past, with no authoritative mandate on the subject, a certain class of physicians continue to transgress. The very worst feature of the whole affair is that they are nearly a unit in declaring against the practice, and, believing it is subversive of the best interest of the profession, are willing to abandon it, but are deterred from doing so because some of their confreres are only watching the opportunity to slip into their shoes.

"You are all aware of the anomalous condition of the medical profession of the Dominion, inasmuch as a graduate of one Province cannot legally practice medicine in any of the others. Each Province has closed its doors, and erected itself into a close corporation.

"I think I am within the facts when I state that the standard of qualification is higher in Ontario than it is in any other Province in Canada, or any State of the Union, and, while we feel justly proud of this eminent position, you have not failed to notice that it amounts practically to an alienation of our confreres who are more leniently dealt with in passing the Rubicon.

"To my mind, the chief cause for this condition of things is that a yeomanry which has not its peer for intelligence on this continent has placed

educational and university matters in the hands of experienced and talented teachers, and the result is that these educators, keeping pace with advanced thought and methods elsewhere, insist on a standard for the Ontario student second to none in any part of the world if you take the standard as a whole for comparison.

"Now, while I would not advocate a lower standard for our own university graduates, I would suggest the formation of a Dominion Board—this may have been suggested before—whose duty it would be to adopt such a standard of examination as would admit properly authenticated graduates from all the Provinces. I would also give it discretionary power to grant certificates to members of the profession who had been years in practice, if they wished to change their residence from one Province to another. The certificate would be conditional upon a good showing as to habit and repute, and if thought necessary a lenient oral examination.

"This Board would take the place of the present Provincial Examining Board, and in a few years the standard of the several Provinces would be perfectly assimilated, the present bone of contention removed, and we would then be in a position to ask Great Britain and other countries to grant us registration, which we would reciprocate in kind."

SURGICAL SECTION.

Dr. L. Teskey reported a case of gangrene of the rectum. The patient, a man about fifty, had what appeared to be an ischio-rectal abscess which opened spontaneously near the anus. A day or two after a large slough of the rectum, six inches long, was evacuated. An inguinal colotomy was done, and the case was progressing favorably.

Dr. G. A. Peters read a paper on "Traumatic Lesions of the Spinal Cord," presenting two specimens.

Dr. T. K. Holmes, of Chatham, read a paper with the title, "Cases of Melancholia Cured by Removal of Interstitial Fibroma of the Cervix Uteri."

Dr. W. H. Harris reported a case of extensive sloughing following the use of the X rays, and presented a water color of the specimen. Drs. Peters. Spencer and Galloway joined in the discussion.

A PLEA FOR THE RADICAL OPERATION FOR HERNIA AMONG THE INSANE

was the title of a paper read by Dr. A. T. Hobbs, of London, and discussed by Drs. E. H. Stafford and T. K. Holmes.

THE VALUE OF ASEPTIC METHODS IN THE TREATMENT OF PUS CAVITIES,

by Dr. A. Primrose, of Toronto, was a paper dealing with various forms of infection which might occur from without, and showed the advantages to be derived by strict adherence to antiseptic rules. Thoroughly cleanse the cavity, and then allow no infection to take place. Discussed by Drs. H P. H. Galloway, Sylvester, J. Wishart, Goldsmith, Starr, and Holmes.

MEDICAL SECTION.

Dr. W. J. Wilson read a paper on "The Treatment of Eclampsia." If indications were severe, labor should be induced when the child was not

viable. If the child was viable he advised temporizing, and using such remedies as would eliminate the poison from the system.

Dr. Sanson said he had seen cases of eclampsia occur in which there was no disease of the kidneys.

Dr. A. H. Wright thought too much attention had been paid to the kidneys. They were only attacked secondarily. The liver was attacked first, then the blood, the nerves and the kidneys. There was nothing better than magnesium sulphate in treating the preceding condition. For the seizure morphia was good in selected cases. Chloral was useful after the convulsions were over to prevent recurrence.

Dr. C. J. Hastings thought a distinction should be made between neurotic and toxæmic cases. Bleeding had been referred to, but he preferred the use of intravenous injections of artificial serum.

Dr. Mitchell said that in country practice there was a difficulty in getting a chance to treat a case until labor had come on. There was, no doubt, some virtue in bleeding.

Dr. J. S. Hart narrated a case of abscess of the lung.

Dr. A. McPhedran read a paper on "Cerebral Syphilis." He reported two cases. Treatment should be thorough and continuous. Prognosis varied with the length of time of incubation. Cases exhibiting local symptoms were more unfavorable than those showing general symptoms. Iodide of potassium should be administered in large doses intermitted with mercury.

Dr. Parsons read a paper on "Study of the Dried and Stained Preparations of the Blood."

The method of preparing the specimens of blood was carefully gone into and explained. The results of faulty technique and how to avoid these dwelt upon. The staining methods of Ehrlich and the various pathological changes found in different diseases minutely given.

Dr. James Samson, of Windsor, read a paper entitled

TWO UNNAMED DISEASES.

The title was correct so far as the association was concerned, yet with regard to the second part of the paper it was not. The speaker recited the history of twenty-five or thirty cases of a disease which had occurred in his practice. The symptoms pointed somewhat to the "milk sickness" of the Southwestern States. They all occurred in one section of the country. There was nausea, fever, diarrhœa, etc., which pointed to poisoning, and in one or two cases which had recently occurred there were strong suspicions placed. The results he had obtained were very good as compared with the few cases which he believed surrounding physicians had seen. There had only been one post-mortem, and that imperfect. If any members had had a similar experience he would like to hear from them.

The second part of the paper dealt with the relation between idiopathic peritonitis and appendicitis. He said some cases appeared to be of rheumatic origin.

Dr. W. J. Wilson said he had seen cases of rheumatic peritonitis where the points of tenderness had moved. These cases had got well under anti-rheumatic treatment.

Dr. H. C. Parsons asked if the first series of cases were not typhoid.

Dr. Samson said there was nothing to make him think there was typhoid.

Dr. G. Gordon said there must have been some gastro-intestinal poison.

Dr. H. B. Anderson said there were cases of peritonitis due to the infection by bacteria. With regard to rheumatic peritonitis, the term must necessarily be indefinite until we know the cause of rheumatism.

Dr. J. S. Hart said he had had a series of seven cases of peritonitis at one time, whether merely a coincidence or due to infection.

Dr. W. Oldright said that influenza had sometimes taken a peritonitic form.

EVENING SESSION.

Dr. George Bingham, of Toronto, opened with a paper dealing especially with the various operations for inguinal hernia. The merits and demerits of McEwen's, McBurney's, Halsted's, and Bassini's operation were explained, and shown by lantern slides on a large screen. As in the experience of every operator, children gave the best results, and the larger number, relatively operated upon, the less the percentage of deaths. In any event the percentage of deaths should be less than one. As to recurrences such are sure to take place, and a radical cure should never be claimed until at least one year had gone by. Femoral, umbilical, and ventral hernia were touched upon.

Dr. J. Wishart, of London, followed, and said he had been operating for some years. He began with the McBurney, but was led to abandon this on account of the large percentage of recurrences, 25 per cent. to 30 per cent. No operation seemed at the present time to be the ideal one, but Bassini's seemed to give the best results. Every operator would find, however, that cases were to be judged on their merits, and the various operations modified as the operator chose. As to sutures, silk was by no means a good material for buried sutures. Kangaroo tendon gave the best results with the speaker.

Dr. A. Primrose, of Toronto, said it was not safe to take the statistics of any one man, and very unsafe to be carried away by enthusiasm for a particular form of operation. Every specialist had good figures to show.

Dr. Bingham closed the discussion.

The order of business was then suspended to elect a Nomination Committee, so that a report could be had before adjournment.

Dr. N. A. Powell, of Toronto, spoke on

THE COTTAGE SANITARIUM TREATMENT OF PULMONARY PHTHISIS.

Experience proved beyond doubt that this plan of treatment was the best we have at the present time. The results obtained at Saranac Lake by Dr. Trudeau, where about 30 per cent. of permanent cures, and 75 per cent. materially benefited, could not be equalled by any other plan of treatment at the present time. Several lantern slides were shown of the cottages at Saranac Lake, and of the sanitarium near Gravenhurst, which will be opened in about two months. The speaker hoped the profession of Ontario would heartily support the work, and not get the mistaken notion that it was a place for our consumptives to go and die.

Dr. R G. Rudolph, of Toronto, then read a paper on

THE EFFECT OF GRAVITY ON THE CIRCULATION.

Dr. Gilbert Gordon, Toronto, opened the discussion on Obstetrics with a paper on the "Albuminuria of Pregnancy." The writer suggests that since one attack of eclampsia seemed to render the person to some extent immune, it may be possible that some toxine is the cause. While not taking up the treatment particularly, he believed that better results could be obtained by paying strict attention to diet. Keep the bowels open and the skin acting freely.

Dr. Bray, of Chatham, said albumen was not always found in the urine of eclamptic cases; it was very frequently there. It might not be found in particular instances, or at some examinations, but if frequent examinations were made it would be found in a majority of cases. Two propositions seemed to the speaker to be important: (1) All primiparæ should consult the physician at least three months before delivery; (2) frequent examinations of the urine should be made. One attack has not necessarily given immunity, although the cause may be a toxine.

Dr. H. P. Wright had treated three cases of eclampsia within the past year, with two recoveries. He had bled freely in both cases. Morphia and atropia had been used, and he considered that probably no better drug was available than morphia in properly selected cases. This must, of course, be followed by sedatives, as chloral. Attention must be paid to excretory functions.

Dr. T. K. Holmes, of Chatham, said Bouchard found several toxines in the blood, and our treatment should be directed against the particular toxine which the symptoms of the attack pointed to. Immunity may occur in some cases, but he did not think his experience warranted that conclusion. After all, treatment was the most important. In suspected cases the urine should be examined every two or three days. Would not use morphia in all cases. Diaphoresis, a very important factor, must be attended to. Careful diet; milk diet, if a severe case. Two years ago the speaker reported forty-three cases, in nine of which he had induced labor with excellent results.

MEDICAL SECTION.

Dr. Kitchen was appointed to the chair.

The following papers were then presented in order: "Some Considerations on the Management of Pregnancy," by Dr. E. E. Harvey, Norwich; "Hydrotheraphy of the Skin in Early Phthisis," by Dr. Edward Playter, Ottawa; "The Treatment of Gastro-Intestinal Catarrh in Infants," by Dr. H. D. Livingstone, Rockwood.

Dr. H. B. Anderson, "Pneumococcus Infection."

Dr. H. J. Hamilton, "Hyperchlorhydria."

Dr. Price-Brown, "Intra-Laryngeal Mycosis"

In the Surgical Section, Dr. J. F. W. Ross read a paper on "Some Peculiar Phases of Appendicitis"; Dr. Meek, of London, on "Cystic Tumors of the Ovary, Complicating Pregnancy and the Puerperal State."

Time was not sufficient for the reading of all the papers which had been prepared, consequently the following were laid on the table:

"The Treatment of Puerperal Eclampsia," by Dr. A.R. Hawks, of Blenheim.

"Tuberculosis of the Liver," by Dr. R. W. Whiteman, of Shakespeare.

"The Injurious Effects of our Overwrought School System on the Health of Public and High School Pupils," by Dr. R. Ferguson, of London.

"Septicæmia a Preventible Complication of Labor," by Dr. Charles J. C. O. Hastings, of Toronto.

"Pain and Some of its Aspects," by Dr. Campbell Meyers, of Toronto.

"Hæmorrhagic Pancreatitis," by Dr. E. B. Shuttleworth, of Toronto.

The luncheon at the R.C.Y.C. was a very enjoyable affair.

The Clinics at the Hospital were fairly well attended, and the visitors expressed their gratification at the kindness shown by the Superintendent, Dr. O'Reilly.

In the evening the Committee on Nomination brought in their report, which was adopted as follows: President, Dr. W. Britton, Toronto; first vice-president, Dr. Jas. Samson, Windsor; second vice-president, Dr. H. P. Wright, Ottawa; third vice-president, Dr. J. Wishart, London; fourth vice-president, Dr. J. Mitchell, Enniskillen; general secretary, Dr. J. N. E. Brown, Toronto; assistant secretary, Dr. E. H. Stafford, Toronto; treasurer, Dr. Geo. H. Carveth, Toronto.

Dr. Barrick presented the report of the Committee on Legislation, in which it was urged that:

(1) The Legislature appoint a committee to supervise the publication of the various quack remedies so widely advertised in our secular press.

(2) That county health officers be appointed instead of the township officers as now in vogue.

In moving the adoption of the report, Dr. Barrick said that it was a shame poor, sick people were allowed to be so gulled by the various nostrum vendors, by their lying advertisements. People who were well and able to properly take care of themselves were guarded by health officers at almost every point, but as soon as they took sick they were left to be preyed upon by every quack who could write a plausible advertisement.

Dr. N. A. Powell thought no demand had arisen for county health officers, and hasty action might prove detrimental. The present system gave a medical man at the very beck of any township council for advice, etc. It would entail hardship if a distance had to be travelled, and prompt action could not as readily be taken.

Dr. J. W. Smuck said that as a township health officer he found great difficulty in doing any efficient work. General practice was our daily duty. There was not sufficient remuneration given for the work, and most people thought it was paying $15 or $20 per annum for nothing. County officers who could devote their whole time to the work could give laboratory facilities, a depot for antitoxin, etc., and would collect valuable data in time with regard to morbidity and morbility, the supply of water, disposal of drainage, etc., and the effect of soil, elevation, on the health of the community, and so on, which would be very valuable.

The Committee on Necrology had to report the death of the following members: Dr. D. Bergin, M.P., of Cornwall; Dr. F. Rae, of Oshawa;

Dr. W. T. Aikins, of Toronto; Dr. W. T. Harris, of Brantford; Dr. J. W. Roseburgh, of Hamilton; Dr. J. B. Baldwin, of Toronto; Dr. M. J. Donovan, of Toronto; Dr. Ridley, of Hamilton; Dr. McCargow, of Hamilton; Dr. R. Gowland, of Hamilton.

Dr. Machell, of Toronto, introduced the question of the establishment of the

VICTORIAN ORDER OF NURSES,

by the following resolution: "That in the opinion of the Ontario Medical Association the proposal to found a Victorian Order of Nurses is an unnecessary and impracticable scheme."

A discussion on this scheme, which was inaugurated by Lady Aberdeen, was at once begun. Every member of the association who spoke made it clear that, in his opinion, the motives which had suggested the proposal were most admirable, but the opinion was freely expressed that the whole scheme was utterly impracticable.

Dr. Machell said that it would be the means of doing untold harm to the people of Ontario—in fact, to the whole Canadian public. He argued that if half-trained nurses, such as he implied would be employed, were sent out into the sparsely-settled districts, there would be a vast increase of deaths from various illnesses. He especially instanced the evils which would follow from the attendance of such nurses in cases of child-birth. He pointed out that the medical statistics of England showed that the rate of death in midwifery was doubled through the employment of incompetent nurses, and he predicted that the same results would follow here on the establishment of an order of nurses such as the one proposed, where every particular in connection with the scheme was so crude and ill-digested.

Dr. Fotheringham pointed out that certain clauses of the official pamphlet advocating the scheme were a direct insult to the medical profession, in that they intimated that the rural doctors of this province were derelict in their duty, and that more men of the Dr. McClure stamp were needed. He considered that the rural physicians were intensely solicitous in the discharge of their duties, and the expressions used were most gratuitously insulting to this branch of the profession.

It was suggested that the association, in giving expression to its views on this matter, should do so in a very deliberate manner, and give reasons for opposing the scheme for the founding of an order on the lines laid down in the pamphlet.

A committee, consisting of Drs. Machell, Fotheringham, Mitchell, McPhedran, and C. J. Hastings, appointed, which brought in the following resolution: "After careful consideration of the scheme for the founding of a Victorian Order of Nurses, so far as its details have been made public, the Ontario Medical Association desires to express its full appreciation of the kindly motives which have prompted the movement, but feels that it would be neglecting a serious public duty if it failed to express its most unqualified disapproval of the scheme, on account of the dangers which must necessarily follow to the public should such an order be established."

The resolution was unanimously carried.

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Editorial.

BRITISH MEDICAL ASSOCIATION.

MONTREAL MEETING, 1897.

Since our last notice of what is being done in regard to the approaching meeting, considerable progress has been made towards the completion of the arrangements, more especially in the work of the excursion, printing and publishing, museum, and local entertainment sub-committees. The preliminary programme has been printed and distributed, some 16,000 copies having been sent to members of the Association. It appears in the shape of a pamphlet of some 50 pages neatly printed on heavy paper, with an artistic cover in colors. It is plentifully illustrated with lithographs and wood-cuts representing some of the chief points of interest in Montreal, Toronto and Quebec, more especially the university and hospital buildings. The text briefly refers to Montreal, its medical institutions and hospitals. Several pages are devoted to a description of how to reach Montreal from Europe, referring to some of the advantages of the St. Lawrence route as compared with that to New York, on the magnificent liners landing there from Liverpool and Southampton. Quebec and the picturesque St. Lawrence route are referred to in glowing descriptive language so ingeniously woven as to give at the same time a bird's-eye glimpse of the early history and characteristics of this Province.

Reference is made to the hotels and lodging accommodation in Montreal, and some useful hints to travellers are given in regard to securing berths, luggage, clothing, United States and Canadian money, etc. The excursions arranged for are described and their attractions set forth in a way which must arouse the liveliest anticipation among those whose privilege it will be to take advantage of the low fare and enjoy the grand scenery of the St. Lawrence, the Saguenay, Lake St. John, or the grandeur of the Rockies. At the end is a note on the game laws and a table indicating the open season for hunting various kinds of game. The whole pamphlet is exceedingly well and tastefully gotten up, reflecting credit on the

printers and engravers and those whose good judgment is displayed in the appropriate selection of the text. The distribution of this programme at this early date throughout Britain will doubtless exert a favorable influence in the way of giving necessary information to those contemplating the trip, and may in some instances constrain the undecided to avail themselves of the treat that is in store for those who attend the 65th annual meeting. The local guide, which is in active preparation, will be on a more elaborate scale and form a volume of over 200 pages; it will be distributed at the meeting.

Prof. Adami, who has been indefatigable in the preparations for the meeting, left on the 22nd of May for England and will be absent some six weeks. He has been delegated by the Executive Committee to visit the various branches of the British Medical Association in England, Scotland, and those in Dublin and Belfast, advising with them and giving all instructions required to facilitate arrangements for the journey, and at the same time endeavor to secure as large a contingent from across the Atlantic as possible. He will also confer with and assist the English Secretaries in regard to securing papers for the meeting, and members to take part in the discussions. At the same time, his presence in England will be of the greatest service to the General Secretary, Mr. Francis Fowke, and Dr. Saundby, the President of the Council, as he will be able to advise with them on all matters pertaining to the various details connected with the arrangements for the meeting on this side. The President-elect, Dr. T. G. Roddick, M.P., has left to visit Ottawa, Toronto, and London, with a view of furthering matters connected with the branches of the Association there. In the latter city the attempt to form a branch has not been very successful, and we hope Dr. Roddick's visit will result in organizing in this field of abundant material an active and live addition to those already existing in the Dominion.

The Montreal branch has made remarkable strides in its membership during the past year, the number having increased from seventy to 243. Dr. Roddick will also, while at Toronto, confer with the local Executive Committee of the British Association for the Advancement of Science, and endeavor to secure their co-operation in regard to excursions.

The transportation difficulties, which at one time threatened to prevent a number from coming, are being gradually overcome. The steamship *Lake Ontario*, which leaves Liverpool on the 21st of August, is a large and commodious vessel having accommodation for 150 passengers, most of which is taken up by members.

The Allan Line ships which sail on the 5th, 12th and 19th of August will bring over a number, and it is expected that the Peterson Line will dispatch a vessel on the 20th of August, which would meet all requirements. It will be part of Prof. Adami's mission to see that ample transportation facilities are afforded to all who desire, and he will make any special arrangements that may be considered necessary.

The local Entertainment Committee, of which Dr. Girdwood is chairman, will have a full and attractive list of entertainments provided for the guests, details of which we will give later. A committee of ladies is being organized to assist the sub-committee. The Golf Club has arrang-

ed for a series of matches to be held at their magnificent new grounds at Dixie, to take place on Thursday, September 2nd, and a cricket match is being arranged for among the Montreal clubs. Dr. Roddick has written to all the branches of the Association, both English and Colonial, requesting them to send delegates; answers have already been received from a number, most of them stating that the matter will be placed before the next meeting of their Councils.

THE VICTORIAN ORDER OF NURSES.

An editorial pronouncement upon a subject like this is a delicate matter. This is evidenced by the ludicrous efforts of the lay press, especially of some of our leading dailies, to sit on two stools. It is not pleasant to be torn in opposite directions between the wild horses of deference to one whose requests, as the representative of Royalty, are tantamount to commands, and respect to the demands of common sense. The position of a professional journal in the premises is much to be preferred, as the subject can be treated *ex cathedra*, apart from questions of patronage or favor of high places. The action of the Ontario Medical Association at its recent meeting seems to have stirred up the supporters of the scheme to fresh effort. It does seem so ungracious to cast a damper upon a scheme so manifestly unselfish in its inception and objects that nothing but a sense of public duty could have prompted so powerful an association to speak as they did in condemnation of the scheme. That the profession at large are in sympathy with the association, and doubtful of the possibility of success for the scheme, is becoming daily more abundantly evident. It is to be hoped that the promoters of the scheme will be able to realize that the medical profession, by virtue of superior technical knowledge and years of actual experience of the difficulties sought to be removed, must be, in the very nature of things, the best judges; and self-interest cannot be charged against us in the position we take. It is exactly as if we were to say: "Your Excellency, we have been for years engaged in a steady battle against pain, poverty and disease among the poor and the isolated. We have done this without hope or prospect of reward. We believe that with all our defects any substitute will prove to be inferior, and that the mortality among the dependent classes will be increased, as statistics from so rich and old and densely-populated a land as Great Britain abundantly prove. We, therefore, pray you to allow us to sacrifice time and strength and money in this way, as you will admit we have done in the past; for we would rather redouble our sacrifices in the public interest than allow the public health to suffer by the substitution of services inferior to our own." Now this may seem a quixotic plea, a piece of fine writing; but it is honest, and not self-adulation. We believe it to be a literal unvarnished expression of the attitude of the profession as a whole to the scheme. If we were asking for the saving to us of a lucrative preserve from which it was proposed to exclude us, we might be fairly charged with self-interest.

And what of the vested right of training schools already in operation,

and of nurses already out, quite as capable as any of the new order could possibly be, and probably more so? There could be only one result, the pauperizing of a public already sadly inclined in that direction, the discouragement of the nurses already so efficiently doing their work, the swamping of institutions such as the various nursing-at-home missions of our more densely populated areas, an utterly useless and unprofitable duplicating of effort and organization in fields already well occupied by the various sisterhoods and orders of both Catholic and Protestant religions and charitable bodies, and more than all this, an absolutely inevitable failure to cope with the difficulties of time and space now existing in the sparsely settled regions of our prairies and forests any more effectually than under the existing system. We wish to avoid personalities and narrowness in our discussion of the scheme, but the *onus probandi* lies with its supporters, and we ask them to show how, when a settler's wife, thirty or forty miles from the nearest doctor or nurse, comes to be confined, help is going to reach her any more certainly or speedily than now; or how with hospital and other facilities so profusely provided by the provincial and local authorities as they have come to be within the last ten years in Ontario, they are going to better the conditions. One can understand how it might help the poor of our larger cities, if they really needed more than is now given them; but how they are going to help the isolated pioneer does not yet appear. Most certainly at least this does not yet appear in any of the printed matter sent out from Ottawa, for anything so inchoate and lacking in detail, so abounding in lofty and worthy sentiment and so lacking in *savoir faire*, particularly when launching a scheme of such magnitude upon a country so lacking in developed wealth, it has never been our fortune to read.

If the scheme were one for the supporting in outlying regions of trained medical men, whose soul and bodies could be kept together by the assistance they got from the Order, after the manner of the various Augmentation and Sustentation and Home Mission schemes of the churches, we could readily see how the poor of our backwoods would benefit, for medical men could be placed in regions now without them. But the only result of the proposal would be the authorization of more or less efficiently trained nurses who would, of course, on many occasions be invaluable aids to the medical men, but who would much more frequently be called upon to act without him, that is, to supplant him. More especially, as one can fairly gather from the announcement of the Order, would this be found to be the case in obstetric practice: and no one who has seen; for instance, the facts and figures given recently by Dr. Cullingworth in the *British Medical Journal* on the prevalence of septicæmia in childbed in certain districts in Great Britain would venture to say that the death rate in confinement cases would not rise if the management of these cases were entrusted to any not specially trained. We feel sure that the scheme is doomed to failure, partly from its lack of definiteness and practicality, partly from the fact that it will not meet any really urgent need, and partly from an uneasy consciousness that it was originated by a few well meaning, amiable, but somewhat meddlesome *doctrinaires*.

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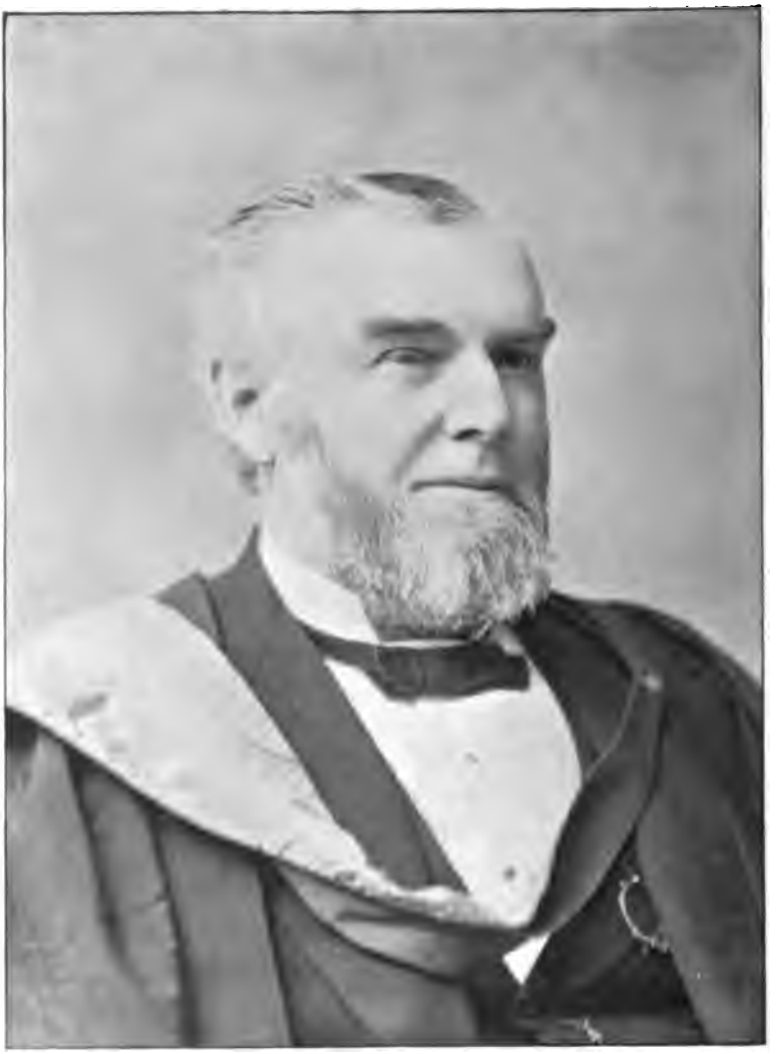

DR. W. T. AIKINS.

DR. FREDERICK W. STRANGE.

THE LATE DRS. STRANGE AND AIKINS.

PALLIDA MORS EQUO PULSAT PEDE.

We present to our readers photo-engravures of two of Toronto's most eminent and most useful men, lately fallen by the wayside, one in the full vigor of strength and apparent health, the other well stricken in years, though till quite recently in full practice and active work. Dr. W. T. Aikins died May 25th, at the ripe age of 70 years, having been born at Burnhamthorpe, Peel County, in June, 1827.

His early education, both lay and professional, was got in Ontario, but later he graduated with distinction at Jefferson Medical College, Philadelphia.

He practised in Toronto from the close of his professional studies till the first breakdown in health occurred about three years ago. Dr. Aikins held some of the highest positions in the gift of the profession he so long adorned. He was surgeon to the Central Prison, and for years to the Toronto General Hospital.

Hundreds of medical men in all parts of the world will look back to the instruction they received from him, both practically in the theatre of the hospital, where they will remember him as a skilful, fearless, and yet most sympathetic and patient surgeon; as well as theoretically at the old Toronto School of Medicine, of which institution he was for nearly twenty years the honored head. Forty years of active, zealous, kindly work, done in the interests of humanity is a goodly record. Our readers can imagine the thousands of kindnesses done, the life-long going about doing good. His example was all for good, and his memory will long be kept green in the hearts of thousands of loving friends.

Dr. Frederick W. Strange was of English birth, but had made Canada his home since 1869, when he purchased the practice of Dr. W. B. Geikie, at Aurora. His life was a busy and useful one. Political life had an attraction for him, and he sat in Ottawa from 1878 to 1882 as member for North York. In militia matters he was greatly interested. He was an ex-Captain of the 12th York Battalion, and of the Queen's Own. He took part in the Northwest Rebellion as surgeon to "C" company.

He was surgeon to the Toronto General Hospital. He held many other appointments, showing the high esteem in which he was held in public life.

In private life he was known and loved as the kindly, generous, warm-hearted gentleman. In the practise of his profession, the welfare of his patients was ever before self, both as to personal ease and the financial side of the question. Generous to a fault, his services to the poor will long be remembered by that class in this city. It is safe to say that there was not, at the time of his death, a more popular doctor in the city, both in the profession and among the laity.

Thousands mourn his loss to day, and will miss for many a day the kindly word, the generous hand and skilful attention of Toronto's most popular physician. We are sure our readers will appreciate his photo. the best we can procure, for very few are in existence.

WILLIAM T. LUSK, M.D.

The medical world has received a great shock in the announcement of the death of Wm. T. Lusk, on June 12th, of cerebral apoplexy. He was born at Norwich, Conn., in 1839, and was at the time of his death in full work, and at the zenith of his fame.

For several years he was editor of the *New York Medical Journal*. Our readers will remember him as a scientific and gifted writer in the medical journals of the day, as well as for his Science and Art of Midwifery, published in 1881. His contributions on the prevention and treatment of puerperal fever are widely known.

He held many prominent positions in his profession, and was a man who will be missed from the ranks.

DR. J. LEWIS SMITH.

Another great man, in the person of J. Lewis Smith, has gone over to the majority. He died June 9th of exhaustion and cardiac disease. For several years his health had been failing, and the shock of a runaway accident a few months since gave such an impetus to the disease that he succumbed on the above date.

Born at Spafford, N.Y., 1827, he graduated at Yale in 1849, and from that time on devoted his entire energies, and talents of a high order, to his beloved profession. He early showed a predilection for children's diseases, and as a gifted author in that line we all knew him.

Among the various positions held by him we may note: Professor of Diseases of Children in Bellevue Hospital Medical College; Attending Physician to Charity Hospital, the New York Foundling Asylum, and the New York Infant Asylum; and Consulting Physician to the Bellevue Bureau for the Relief of Out-door Poor, Department for Diseases of Children.

His death leaves a blank which cannot be easily filled.

THE ONTARIO MEDICAL ASSOCIATION.

The condensed report of the late meeting of the above association will be found in another place in this issue. The meeting was very successful, and demonstrated, we think, the advisability of its being held permanently in Toronto. The papers read were a good deal better than those usually presented. This remark may seem stereotyped, but in truth the quality of the material put before the association is year by year improving. There is less compilation from text books and more original thought. While much of the practical comes from the older members of the society, men who have grown grey in the active practice of medicine and surgery, the theoretical and scientific side of the subjects brought forward are well and ably handled by the rising generation of younger

men in the ranks. The outlook for medicine in Ontario is very hopeful with such young men as we have with us to fill the places vacated by the older members, many of whom, unhappily, are passing over to the majority. True, we have not the large endowments for scientific medicine which are available in Quebec, and in many other countries; nevertheless, with a zeal and perseverance truly admirable some of our young men are doing original work in the purely scientific field of the profession. This is bearing its fruit in the teaching of our medical colleges, and as a consequence in the increased scientific outfit of our more recent graduates. When, therefore, we say that the outlook is hopeful, we have good reason for the hope that is in us; and such meetings as the late one of the Ontario Medical Association cannot but do incalculable good, both to the older members, who are by them kept in touch with what is going on in the laboratory, and to the younger scientific, and perhaps too sanguine, members, by mental attrition with the solid, the proved, and the practical.

We spoke of the quality. Now as to quantity, we think the committee who had charge of the papers would do well to curtail the number of papers put upon the programme. It is not encouraging to a young man to prepare a paper, giving of his best mental strength, for the elucidation of some subject about which he has or thinks he has something new, valuable, or interesting to say, and then have that paper "read by title." It creates dissatisfaction and more or less want of interest in those members who are unfortunately so tabled.

We should suggest fewer papers and more time for discussion. The five minute rule as to discussion has its good points, but also its bad ones. Five minutes is too long to listen to some men, and especially to those who make it a point to discuss each and every subject that comes up. These men are a nuisance, just as flies and dust are, but they must be borne. On the other hand, five minutes is too short for a man who has been named on the programme to take part in a discussion. We were indeed glad to note the choice of the president, Dr. Britton, of Toronto. The association has had a long line of well-known men as presidents, and we are certain that this year's choice will prove both acceptable to the members individually and beneficial to the Society.

THE SEMI-CENTENNIAL OF ANÆSTHESIA.

We have just received the transactions of the Semi-Centennial of the first public demonstration of Surgical Anæsthesia at the Massachussetts General Hospital of Boston, October 16th, 1896.

We note the names of a number of prominent Americans among those who delivered addresses on that occasion. Among them Ashurst Welsh, McBurney and Weir Mitchell.

The honorary committee consisted of a number of men whose names are familiar to everyone. The occasion was a great one, and greatly, yet modestly, the leaders of the profession in America rose to it.

The number of invited guests was large, and we note among them the names of celebrated physicians and surgeons the world over.

We are not a little pleased to see a letter from one of our own collaborateurs. It is, we think, worthy of reproduction here, as showing the honor done to the Canadian profession, and in itself expressing our sentiments regarding so great an event:

TORONTO, September 30th, 1896.

DEAR DR. WARREN,

The idea of celebrating in every hospital the fiftieth anniversary of the first public demonstration of surgical anæsthesia is a happy conception, and I should be delighted to attend the proposed function if it were possible for me to get away at the time. To no city in America is surgical science a greater debtor than to your own, and I would gladly take part in the proceedings tending to the acknowledgment of debts that we can never hope to pay. There are no boundary lines limiting the spread of such beneficent discoveries as have been given to the world by the members of our profession in Boston. When I think of what the discoverers of anæsthesia, of what Holmes and Bigelow and Bowditch, and those who have borne and now bear the honored name of Warren, have done for us, our obligation weighs heavily, and we can but rejoice that through Lister and through the grand traditions of British surgery we are able in part to make a return. I wish you heartily a celebration worthy of the occasion and of the men who take part in it, and am,

Yours sincerely,

N. A. POWELL.

HOSPITAL HOUSE STAFF.

The following gentlemen have been appointed by the Board as resident physicians to the Toronto General Hospital for the coming year:

From Trinity: Drs. J. S. McEachren, F. A. Scott, R. W. Large, and R. W. Perry.

From Toronto: Drs. Nichols, Mullen, Bryce and Maybury.

To the Children's Hospital: Drs. Graham and Foster.

OIL OF TURPENTINE AS A REMEDIAL AGENT.—Dr. J. B. Walker, of Philadelphia, read a paper *(Med. Rec.)* on this subject. He dwelt especially on its effects in catarrhal affections and as a hæmostatic when the lesion is in the mucous membrane. In gastric ulcer, whether for its influence on the ulcerative process or as a hæmostatic, he said it ranks *par excellence* both for efficiency and acceptability to an irritable stomach. Given in small doses, from two to ten drops in water sweetened with the olæosaccharum anisi, each dose prepared as taken, its acrimony is obscured and the most sensitive stomach will retain it. In catarrhs, subacute or chronic, whether in stomach, bowels, bronchial tubes, or urinary tract, as a stimulant-alterative, reaching every mucous membrane of the body, either in its ingestion or elimination, its virtues are invaluable, modifying secretion and influencing cell nutrition directly. In the winter coughs of the aged and infirm, its general stimulant action is an advantage additional to its local effect.

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CYSTIC TUMORS OF THE OVARY COMPLICATING PREGNANCY, WITH NOTES FROM CASES.

BY H. MEEK, M.D.,

Fellow of the British Gynecological Society ; Gynecologist to the London General Hospital, and Visiting Gynecologist to the London Insane Asylum, London, Canada.

CASE 1. When I was with Lawson Tait, of Birmingham, during the summer of 1891, a patient came into his private hospital in June with the following history :

Mrs. C., æt. twenty-five years, married sixteen months, had given birth to one child, born dead on February 14th, 1891.

Menstruation began when aged fifteen years, and her periods from this time on were regular every four weeks, and lasting four or five days, with moderate loss till she became pregnant in May, 1890.

Her last regular period before she became pregnant commenced May 7th, 1890.

During gestation period, beyond morning sickness and some leucorrhœa she enjoyed good health and had no idea of anything wrong. Labor pains commenced during Friday night, February 13th, 1891, and on following morning her physician was called, and on examination found a fluctuating swelling bulging into vagina and rectum, obstructing descent of child. After exploring with a hypodermic needle he opened into swelling through rectum with a scalpel, and evacuated a quantity of thick purulent looking fluid, and succeeded in delivering a dead child with in-

struments about 7.30 that evening. Puerperal period during first two weeks was not much disturbed except by large quantities of yellowish discharge from rectum and vagina.

Discharge ceased at the end of three weeks, and did not return until the end of six weeks. She was out of bed at the end of second week, but had to return to bed again at the end of four or five weeks on account of diarrhœa and discharge, and from this time on she had been steadily losing strength. She had menstruated six weeks after delivery and again six weeks later, but not since.

She had suffered from considerable pain in back, but not much abdominal pain. About three weeks before coming to Mr. Tait she had been in a hospital, and several ounces of pus aspirated through vagina.

On admission to Mr. Tait's hospital patient looked pale and sallow; temperature and pulse were normal, and there were no chills or night sweats. *Abdomen* was enlarged by a soft swelling in hypogastrium. *Per vaginam*, uterus was found to be forward, and behind it a large, fixed, fluctuating swelling. *Per rectum*, this fluctuating swelling could be felt in front, between it and the uterus.

On June 15th Mr. Tait opened the abdomen, and found a suppurating dermoid cyst of left ovary, very firmly adherent in pelvis. There was no general peritonitis. In exploring with finger cyst wall was broken into, and abscess sac, containing a large quantity of fetid pus and hair, was thoroughly washed out. The sac was then separated and removed with considerable difficulty. The abdomen of patient was then flushed with gallons of hot water and iodine water, and a glass drainage tube inserted to bottom of pelvis.

The abscess sac had communicated with the rectum low down by a small opening, which could be seen after the removal of tumor and thorough cleansing of pelvic cavity. The opening into rectum was too low down for suturing.

Patient never rallied well after the operation. Her pulse gradually got weaker and she died in about thirty hours following the operation.

CASE 2. On May 19th, 1896, I was asked by Dr. Hodge to see with him in St. Joseph's Hospital, London, a patient who gave the following history:

Mrs. H., aged thirty-five years, married seven years; two children—eldest aged five years and youngest eight and one-half months. She had no miscarriages. She had not menstruated since before last pregnancy. Her family history was good. Patient herself had never been very robust. Her first confinement lasted about fifteen or eighteen hours and she was delivered with instruments without difficulty. Convalescence from this confinement good. She nursed her baby fourteen months, and menstrual flow did not return until after weaning the baby. From this time on menstrual periods were regular every four weeks, and lasting five or six days, with rather free flow.

Her health continued good till about Christmas, 1893, when she had an attack of la grippe followed by some lung trouble for a time, and during the following spring she suffered from backache, which became so severe that in May she had to go to bed. Her menstrual periods at this

time became more frequent—every two weeks—and painful, with free flow.

She was unable to work for two or three months. Her periods became regular again in July, and continued regular till her second pregnancy in December, 1894. During her last pregnancy she suffered some bearing down in pelvis, and two months preceding birth of child she suffered from some pain in right side, low down and extending up under ribs, more particularly after walking. No vaginal examination was made up to the time of labor.

Labor commenced during the morning of September 8th, 1895, and her physician, Dr. Wood, of Mitchell, saw her about 7 a.m., and on examination found a fluctuating swelling low down in vagina in front of presenting head and interfering with descent. Dr. Hulbert was called to assist, and under chloroform the swelling was aspirated through vagina, and several ounces of milky fluid resembling pus removed. The head then came down, and a living child was born without further difficulty about eleven that morning. After delivery patient appeared to be getting along very well till the third day, when she had a chill, followed by fever and sweating. A week later she had another chill, followed by rise of temperature and profuse sweating. The swelling in cul de sac appeared to fill up and then subside. She remained in bed about two months. After getting up she felt a swelling low down, apparently near anus, and could not sit down on account of uneasiness and pain from this swelling. In December, '95, or about three months following birth of child, Drs. Wood and Hulbert opened into swelling behind the uterus through the vagina, under anæsthesia, and evacuated considerable pus and inserted a drainage tube for a time. About two weeks later a swelling appeared above Poupart's ligament in right inguinal region, and under anæsthesia an incision was made into this swelling, but very little fluid was found at this point.

For a short time after this patient appeared to improve some, but in January, '96, she had severe pain and straining in rectum, followed by a discharge of pus with stools, and later on in February by chills, fever and sweating again.

From this time on till coming to the hospital patient had suffered from abdominal pain and straining in rectum, requiring morphia for its relief nearly every day, and also from frequent discharges of pus with stools, rise of temperature, frequent weak pulse and night sweats.

Examination on entering hospital—general appearance pale, sallow; temperature normal, pulse 104 and weak. She was very much emaciated; scarcely any adipose left in body. The skin was tightly drawn over all bony prominences, and along lower part of spine the appearance of commencing bedsores. From her extreme emaciation she might readily have become a candidate for the position of "*the living skeleton in any dime museum.*" Her abdomen was flatulent and the transverse colon very much distended; could easily be traced in its course obliquely across under the thin abdominal wall.

Examination of liver and kidney and appendix regions negative. In right inguinal region, just above Poupart's ligament, could be felt a hard,

stony-like thickening, apparently filling right pelvis from median line behind pubes out laterally to right pelvic wall. Pressure over this mass was painful. A small cicatrix, about one inch in length, could be seen over right inguinal canal where the incision had been made into swelling in this location.

Per vaginam—Uterus could be felt forward, about normal size and firmly fixed in a plaster-of-Paris-feeling mass behind and to right. Behind cervix could be felt the cicatrix where drainage tube had been.

Per rectum—About two and one-half inches up, a hard, stony-like thickening almost completely encircled the gut like a stricture at this point, and was very tender to touch.

No sense of fluctuation could be felt anywhere in the mass.

Examination of urine gave negative results.

The probable diagnosis made from history of case and examination was a suppurating cyst of right ovary which had partly discharged through rectum.

On May 26th, with patient under chloroform and assisted by Drs. Hodge, H. Stevenson and house-surgeon Dr. Davis, I made a free opening into cul de sac behind cervix, and then explored with finger and felt a soft, fluctuating mass well up on right side, into which I opened with scissors and evacuated about six or eight ounces of fetid pus having a very strong fecal odor. The opening in this abscess sac was then dilated and cavity thoroughly and carefully curetted with a blunt curette, which brought away considerable pus, cheesy material and several small tufts of soft, light-colored hair mixed with pus. The cavity was then thoroughly irrigated till clean and strong tincture of iodine swabbed all over its interior, and a good-sized rubber drainage tube, wrapped in iodoform gauze, introduced well up into sac.

At the conclusion of the operation the patient's pulse was 140 and weak, but fell gradually till about normal next evening.

The drainage tube was removed on the fifth day after operation and cavity again irrigated and iodine applied, and a strip of gauze introduced. From this time on the abscess cavity was irrigated every third or fourth day and swabbed with iodine or zinc chloride solution, and kept open by the introduction of a strip of iodoform gauze. It contracted down quite rapidly and patient steadily improved in health and appearance, and was able to return to her home in Mitchell, Ont., early in July, the cavity having contracted down to a small sinus with very little discharge.

In a letter to Dr. Hodge from her physician, Dr. Wood, in February last, 1897, he states that patient has regained her usual health, and is able to do her work in the farmhouse. A very small sinus with very little discharge still exists, but gives her no inconvenience.

This sinus, he thinks, would have been completely closed before this if patient had not neglected having it attended to by an occasional cauterizing application.

CASE 3. Mrs. L., Canadian, aged twenty-three years, consulted me July 20th, 1896 (at which time she was unmarried), for a leucorrhœal discharge, from which she had been suffering for nearly one year; also for pain in left side after walking; and for the past day or two she thought

she could feel a lump low down on left side of abdomen. She had also suffered occasionally from backache, and lately from nausea at times.

Her menstrual periods had first appeared when aged sixteen, and they had been regular every four weeks, lasting about five days, with moderate flow and no pain till June, 1896. Her last period commenced on May 19th, 1896, and was normal in every way.

On examination I found lower part of abdomen distended and flatulent, and on left side low down a somewhat rounded swelling could be distinctly seen, which on palpitation could be felt as a firm, rounded, movable mass coming up from behind pubes, somewhat tender on pressure and dull on percussion.

On right side above Poupart's ligament some fullness was noticeable, which on palpitation was found to be a tense mass apparently filling right inguinal and partly right iliac regions, slightly tender on pressure, dull on percussion, elastic, but not distinctly fluctuating.

Per vaginam.—A mild papillary vaginitis, which evidently had been the cause of leucorrhœal discharge. Cervix uteri was rather high up and soft, and the lump felt through the abdominal wall above and to left was found to be continuous with cervix, and apparently the fundus and body of enlarged uterus, giving the physical signs of early pregnancy.

Behind and to right side of uterus low down could be felt a large swelling, about the size of a fœtal head, filling the whole of right ride of pelvis, and rising up above Poupart's ligament, displacing the enlarged uterus to left side and lifting it up. The mass was continuous with that felt through abdominal wall on right side. It could not be lifted up out of pelvis.

The diagnosis arrived at from examination and history was an embedded ovarian cyst between folds of right broad ligament, complicating pregnancy at probably two months. The breasts also gave a suspicion of pregnancy and the uterus could be moved independently of tumor on right side. The patient went into St. Joseph's Hospital, and on August 1st, under ether administered by Dr. H. Stevenson, and assisted by Drs. Eccles and Ferguson, I opened the abdomen by a median incision. Omentum and intestines presented, which when pushed back disclosed the wall of a cystic tumor occupying the right side of pelvis.

Surface of tumor had the white, glistening appearance of ovarian, and spread out over arch of tumor was the enlarged, elongated right Fallopian tube, and over its anterior surface the very much thickened right round ligament.

The tumor on left side was found to be the enlarged uterus, having the feel and appearance of pregnancy in the third month.

The cyst was tapped with trocar and about two quarts of light greenish straw-colored fluid removed. The sac was then drawn up into wound and examined for a pedicle, but it had no pedicle, being embedded between layers of right broad ligament. The capsule was then opened behind Fallopian tube and separated from cyst sac for some distance around opening; then by drawing up cyst sac I found that its enucleation was comparatively easy and without much active bleeding. After enucleation, the next question was how to deal with the large opened up cavity

between the layers of broad ligament. After considerable difficulty, I succeeded in bringing the capsule up sufficiently to transfix and ligate below the bottom of the cavity. Some raw surface on posterior surface of broad ligament below ligature required whipping over with fine suture. The left ovary and tube were found normal, with normal enlargement expected from pregnancy. The abdomen and pelvis were carefully sponged out, and abdominal wound closed with silkworm gut.

Patient suffered very little shock from operation, and convalescence was uneventful and without the slightest indication of any disturbance in the progress of pregnancy. She left the hospital August 29th, and about six weeks later, being informed of her pregnant condition, she married. Gestation proceeded normally, and she was delivered of a healthy male child about ten pounds in weight, without difficulty, on February 23rd, 1897; just two hundred and eighty days from first day of last menstrual period.

Puerperal convalescence was normal with the exception of hemorrhoids, which caused considerable inconvenience during the first eight or ten days.

Remarks.—These cases have been reported in the order in which they came under observation, and one's attention is naturally directed to the uneventful progress during pregnancy, labor and the puerperal period of Case 3 as contrasted with the prolonged period of suffering invalidism in Case 2, and the fatal termination in Case 1.

Case 3 was a primipara, unmarried at the time she first came under my observation; an examination of pelvic organs was made early in pregnancy, the complication diagnosed and removed before it had time to cause any serious interference.

Case 2 was a bipara in whom the first labor was not attended with difficulty, and during her second pregnancy her symptoms were not considered sufficiently important to demand an examination of pelvic organs and as a result the mother's life was nearly sacrificed.

Case 1 was a primipara and had complained of no untoward symptoms during pregnancy. No examination was made till labor had started and as a result two lives were sacrificed.

The lesson, therefore, one learns from personal experience with cases of this kind is that every pregnant woman, whether primipara or multipara, and whether complaining of untoward symptoms or not, should be subjected to a very careful examination in order to ascertain if there is any complication, pelvic or abdominal, that might interfere with the normal progress of pregnancy, labor, or the puerperal period; and such an examination should be made early in pregnancy if possible, for the reason that the risks from operation in such cases are less during the early months than later on in pregnancy, although I think all cystic ovarian tumors complicating pregnancy should be operated on as soon as the diagnosis is made, no matter what may be the period of gestation.

If cases one and two had been examined during pregnancy it is quite probable that the complication in each case would have been discovered, and there is no reason why operative interference should not have given as satisfactory a result as in case three.

A CASE OF ACUTE INSANITY DUE TO EYE STRAIN.

BY MURRAY MCFARLANE, M.D.
Rhinologist, etc., St. Michael's Hosp., Toronto.

Mrs. A., aged 27 years, referred to me by Dr. Waddy of Rosseau, Muskoka, with the following history:

For several years she had suffered from severe pain in the eyes, especially the left, with frontal and occipital headache. Family history good; no insanity; general health had always been good, in fact had the first "cold" in her life while in Toronto.

I was told by her husband that the headaches had been constantly increasing in intensity, and culminated, two weeks previous to her consulting me, in acute insanity or delirium, necessitating restraint. Dr. Waddy, her family physician, reviewing the case came to the conclusion that the eyes were at the bottom of the trouble and advised that an oculist should be consulted. This was reluctantly agreed to by her family, who could not believe that the eye strain would cause her symptoms.

When brought to me she was suffering intensely, was very melancholy, and would scarcely answer when spoken to. Upon ophthalmic examination no abnormality in the nature of disease could be detected.

Field of vision normal, slight hyperpharia.

Refraction without mydactic.

O.D. .50D+sp. O S. 1D+sp. 3D—aj. axis 15°.

With Atropine. O.D. .50D+sp. O.S. 1.95D+sp. 2.25D—aj. axis 15°

This result showing spasm of accommodation so clearly, and the fact that the day following the instillation of the mydactic the headache disappeared, fully confirmed Dr. Waddy's diagnosis as to the cause of the insanity or delirium from pain.

Glasses were ordered as above, with complete relief of all the symptoms, and Mrs. A. returned to her home and has been a new woman, according to her physician's report, ever since.

This case is of interest, as it suggests the query as to what would have been the result had not the error of refraction been corrected. Might not chronic melancholia or other brain trouble have resulted?

FRACTURE OF THE INTERNAL CONDYLE OF THE HUMERUS.—I am firmly convinced that it is desirable practice to postpone passive motion until the intermediate callus is firm enough to prevent motion at the seat of fracture. Postpone passive motion for from eight to twenty-one days, in the child; in the adult, for three or four weeks. It is by securing rest for the fracture that we diminish as far as possible the amount of exuberant callus so often in the way of an ideal functional result.—*Dr. Senn, in Medical Record.*

SURGERY.

IN CHARGE OF

GEO. A. BINGHAM, M.B.,

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THE PROBLEMS WHICH MOST PERPLEX THE SURGEON.

BY ROSWELL PARK, A.M., M.D.,

Professor of Surgery, Medical Department, University of Buffalo.

The more conversant one becomes with the literature and accumulated knowledge of others concerning the topics which usually interest him, and the more he pursues his studies within restricted lines, the more difficult it becomes to select a subject of which he may legitimately treat before such an audience as this. It is, therefore, with not a little hesitation, and yet with the highest appreciation of the honor done me in inviting me to address you on this occasion, that I have concluded to invite your attention to some of the problems which the medical profession as a class, and particularly those who practise surgery, are to-day most often called upon to confront, which still seem so obscure that when asked for explanations we have to confess absolute ignorance, and state that we sadly need light from any and every source.

We have a right to view with the greatest satisfaction and pride the progress which has been made both in the theory and practice of surgery, and particularly in that branch of general surgery spoken of as surgical pathology. And just here I may be permitted to remind you that, according to the best standards of the day, pathology is not distinct from but must be a part of surgery—else would the surgeon lose the explanation of both the lesion which he is treating and of the reason of his treatment. I think, then, that of all the factors that can be mentioned as having conspired to put surgery where it is to-day, the most conspicuous is the recognition which surgeons have given to surgical pathology. In consequence, I may repeat here the statement which I often make, and which may well challenge contradiction, "that of all the branches of applied science none has made more rapid progress during the last twenty-five years than surgery, save only electricity."

It being admittedly, then, so impossible to dissociate theory from practice, the active thinker finds himself sadly hampered in treating actual

disease, when he fails to understand either its nature or the bodily conditions which have permitted its occurrence, or both. Among the so-called surgical diseases we are familiar with the active causative agents in nearly all instances, but we are far from familiar with those physical conditions of the body which seem at one time to invite and at another to prevent infection. This might bring up before us the whole question of susceptibility and immunity, over which physicians and surgeons must undoubtedly vex themselves for yet many years before the intricate problems involved are regarded as settled—if, indeed, a happy solution be ever reached. Upon these subjects I have more than once addressed my colleagues in various other societies, and do not now propose to take them up again. Nevertheless, there is one aspect even of these questions which it might be well to present to you as one of universal interest, one which calls for much careful study, in which the young workers of this or any other society might profitably concern themselves.

I have long been convinced that the susceptibility and immunity of a patient about to undergo a given operation are influenced not alone by the state of his excretory organs and his freedom from toxæmia of any description, but also by the anæsthetic required for the successful and easy performance of the same, and its effects as manifested through his own blood. We have had many careful observations made with reference to the effect of chloroform and ether upon the action of the heart, the blood pressure, etc., and their effect upon the kidneys and the elimination of the drug, as well as upon the temperature of the individual.

Illustrative of careful studies of this kind is the research concerning the latter recently published by Dr. Dudley Allen, of Cleveland, by all of which our clinical knowledge concerning the effect of anæsthetics has been materially augmented. I cannot conceive it possible, however, that the amount of chloroform, for example, required to keep a patient anæsthetized for an hour, and which is still being eliminated at the end of the second day, as evinced by the odor emanating from both his lungs and his person, can be so long retained in solution in his blood without more or less perceptibly affecting its germicidal properties, as well as perhaps some of the other physical attributes pertaining to this vital fluid. It may be that absence of this interference with its powers may account for escape from serious infection after extensive accidental lesions, while fatal infection occurs sometimes, in spite of great caution observed, during the performance of operations under anæsthesia. To this conviction I confess I have been moved not so much by experimental evidence as by clinical observations and certain general knowledge. What is needed in this regard is exact laboratory investigation, by which, for instance, the blood of a healthy patient, about to undergo some protracted operation, should be first examined a day or two beforehand, by the spectroscope, and by several other laboratory tests, to determine the exact proportion of hæmoglobin and of red and white corpuscles, while it should also be carefully tested regarding its bactericidal powers. This entire and elaborate series of examinations should then be repeated some six, twelve and twenty-four hours after the operation, while in a general way the anæsthetic employed and the amount of blood lost should be

noted. I am willing to venture a prophecy that after sufficient a number of such researches have been carefully collated important deductions can be made, and that it will be found that prolonged anæsthesia does increase susceptibility to infection or reduce immunity, as you may like to put it; which facts having been established, we may then be in better position to fortify our patients against this now known and recognized danger. All of this investigation, however, will require tremendous time and patience on the part of more than one observer, and can be carried on only in some institution well equipped for the purpose. There is here, I am sure, a chance for young men to distinguish themselves if they will devote themselves to the task.

One of the most important problems before us to-day seems to be with regard to the actual cause of death in numerous cases of acute and gangrenous appendicitis, in which almost from the outset the expressions of toxæmia and sepsis are overwhelming. I have seen too many cases of this kind not to be conversant with the gross findings. Nevertheless, I am still unable, as I think is every one else, really to explain the intense toxicity that characterizes them. This is not merely a question of stercoræmia from intestinal paralysis, which undoubtedly makes up a considerable part of such a case, but to this there is added something more overpowering and not included in the ordinary expressions of intestinal autointoxication. I know of no chemical researches which have been made upon the pus removed from large peri-appendical abscesses, but for my own part suspect that some of the sulphur compounds generated under these circumstances, having more or less to do with the allyl group, may be blamed for a part of the poisoning of which I am speaking.

Much may be explained in one direction by the coprostatic acute obstruction so frequently met with in these cases, and to which I believe I was one of the first to call attention. Indeed, in the light of our present knowledge, this form of obstruction, due to causes proceeding from the appendix, needs to be mentioned as by all means the most common form of acute strangulation of the bowels, although it is one too often overlooked by the profession at large, and not figuring with its deserved prominence even in recent text-books and literature. This is due in some cases to intestinal paralysis, in others to adhesions and interference with motility. If personal experience may be in this matter any criterion, I should say in all cases of acute strangulation accompanied by septic symptoms, and in the absence of something definite pointing to lesion in another locality, the wisest, and in the long run the safest, course would be to make the preliminary incision in the right iliac fossa. In so doing the surgeon will be right four times for every error that he may make.

The extreme toxicity of all cases of putrid peritonitis is not to be explained alone by the capacity of the peritoneum for absorption. Neither is this toxicity made known by general symptoms alone. The poisons so rapidly generated seem noxious to all the cells with which they come into contact; hence, gangrene or necrosis of involved surfaces appears very early. Numerous expressions of this fact may be seen in cases in which the appendix is not at fault. Nevertheless, it is in the appendix that it

has struck me as most conspicuous. Every surgeon of experience has, moreover, noted instances of fulminating appendicitis, in which, when seen early, the serous covering was not compromised to any such extent. It is probable that under these circumstances the same necrosis of the mucosa has extended over a more or less wide area inside of the cæcum, and that this is the reason why, after the removal of the appendix and temporary improvement, the septic and gangrenous processes continue and cause the death of the patient two or three days later. Such cases as this must continue to be among the opprobria of surgery, unless we open the cæcum and, if this condition be found, resect a sufficient amount of it to eradicate the difficulty.

Since the publication of Dieulafoy's masterly chapter on this subject, it has been established that the appendix becomes troublesome only when its lumen is occluded, and that when it once becomes a closed cavity it is simply a question of the virulence of its contained bacteria whether a small or fatal dose of toxins shall be produced.

Reflecting upon the similarity of acute cases of this character to those of diphtheria, in which, beneath an area of membrane, the deadly development of germs is going on, the toxins peculiar to this disease being rapidly produced, and not failing to note the beautiful and life-saving virtues of antitoxin as an antidote to the depressing poisons, I have been led to query whether an antitoxin could not be produced which should have a similar effect in cases of acute stercoræmia. While the colon bacillus is not necessarily the sole agent in producing intestinal toxæmia, it is, nevertheless, known to be that usually at fault. Acting upon this fact, I am now endeavoring to immunize animals to the properties of this organism, in order to see whether their serum may possess virtues by which we may overcome the depression and intestinal paralysis that bring some cases of acute appendicitis to the grave. Researches in this direction are now going on in my laboratory at home. It is quite likely that anti-streptococcic serum may have also to be used in these cases.

CANCER.—But the most complex of all problems in surgical pathology to-day, and that upon which we most need light, is with regard to the nature and causes of cancer; and to this topic the remainder of this paper shall be devoted.

The indefinitely sustained power of certain cells to grow and multiply in excess of normal requirements, which is Williams' definition of the essential feature of cancer formation, is common alike to vegetables and animals of any save the simplest type. That cancer appears more prevalent among domestic rather than wild animals is a fact too commonly stated as an evidence of the effect of domestication. Were the same number of wild animals taken at random and carefully examined, I think cancer would be found to be equally prevalent in the wild state. Among animals sarcomata are much more widely diffused than carcinomata, while, according to Rayer, carnivorous animals are more prone to cancer than the herbivorous; just the opposite being true in cases of tuberculosis. In the vegetable kingdom it is hard to draw distinctions between various grades of malignancy, yet that tumors kill a large proportion of trees and vegetables will not be disputed by those who have

studied the subject. Furthermore, if the method of death be studied, it will be seen to resemble in all essential particulars that which produces ulceration, starvation and finally death in animals and in man.

Those particularly interested in the general study of cancer—and who is not?—should be promptly referred at once to the various writings of Rodger Williams, who has shown himself a most painstaking and comprehensive student of the subject. To him I gladly acknowledge my indebtedness for much that has been of the greatest value to me, some of which appears in this paper.

INFLUENCE OF SEX.—According to the statistics collected by him for the twenty-five years previous to 1872, for every 100 males dying of cancer, 229 females perished from the same disease. Of deaths from all causes the proportion among the males was about 1 to 100, among the females 1 to 41. In later years this disproportion has become less marked. Women are still more subject to non-malignant growths. Of cancer in women the breast is involved in 40 per cent., the uterus in 34 per cent., all other parts of the body making up the other 26 per cent. In males, the parts about the mouth yield 40 per cent. of the cases. He collected 1,878 consecutive cases of breast cancer in both sexes, in only 16 of which was the mammary gland in the male involved.

This great discrepancy holds good mainly with regard to carcinoma. When we come to sarcoma, there is but little difference between the sexes, all of which Williams interprets as being due to biological peculiarities pertaining to the reproductive organs. Thus mammary carcinoma is more prone to arise when post-embryonic developmental activity is greatest.

INFLUENCE OF AGE.—In the evolution of cancer, this can be accurately stated only by comparison of mortality rates with the number of healthy individuals living. After the ages studied are estimated in this way, it appears that the liability to carcinoma increases with each successive decade until the seventy-fifth year. Further study shows that the most characteristic feature in this increase is not mere advance in years, but disproportionate increase in the post-meridian years. By a most instructive diagram Williams shows that the most prolific cancer-producing age is that between the fifty-fifth and sixty-fifth years of life. In other words, during the years when the forces of growth are most active the tendency to carcinoma is small. With the period of tissue and organic maturity begins the liability to the disease, which increases until about the sixtieth year. That the uterus and breast are attacked at an earlier age than other organs is because they have become *passé* with the conclusion of child-bearing life. With the waning of developmental activities the danger of cancer increases, to pass away only when the organs have undergone complete physiological atrophy. The same statement can be made with regard to liability to known infections, whether cancer be an infection or not.

RACE, COMPLEXION, ETC.—Williams has carefully studied the complexion of three hundred and eighty-four cancer patients, his investigations showing him that, especially among females, there is greater liability to this disease in brunettes than in blondes, and this in spite of the fact

that the blonde type prevails among the population generally. He puts the frequency of the disease as being about twice as common in brunettes as in blondes. Beddoe furthermore states that red-haired individuals are even more exempt than others of light complexion. Our own census returns show that cancer is twice as frequent among whites as among blacks; and among whites, in this country at least, and taking it at large, Billings finds that the Irish and German are the most liable.

That the disease is said to be very rare in Iceland, Greenland, Turkey, and Greece, has of course but little interest for us in this country. It is exceedingly prevalent in China; three per cent. of the patients in the Hong-Kong Hospital suffer from the disease. It is said that cancer of the stomach is extremely rare among the Chinese. In India also the disease as a whole is somewhat rare. This may be misleading, however, because most of the people are averse to operations for anything except calculus and cataract. Certainly in the tropics, the world round, the disease is less common than in the temperate zone, though I have often said that we who live in Western New York live really in the tropic of cancer, because the disease is so extremely prevalent with us.

FAMILY HISTORY.—One of the vexed questions of to-day about cancer concerns its heredity. Williams carefully studied one hundred and thirty-six cases of breast cancer, and discovered a history of disease in the family in one-fourth of the number. So far as I have studied my own case histories, I think my proportion in which there is a family history of this disease to be a little larger even than Williams'. Any such statement as this means a strikingly high proportion of inherited lesion, no matter what this may be. Deformities, defects, and supernumerary organs are not transmitted from parent to offspring in anything like twenty-five per cent. of instances. Moreover, in some cases there is a history of multiple instances in the same family, which have not yet been sufficiently analyzed to yield positive deductions. It must be said that numerous cases occurring within one family, all of whose members live closely together, are fully as much of an argument for the parasitic nature of the disease as is its repeated occurrence in the so-called cancer houses. I know, for instance, of a house in a little town in western New York, in which, during three successive generations of inhabitants, deaths from cancer have occurred, these being really among different people of the same family, but not so arranged as to be directly transmitted by inheritance.

If cancer is transmissible by heredity and is not an infection, it should tend to die out in the course of transmission, as do all abnormalities. Thus, out of three hundred marriages in which both husbands and wives were deaf and dumb, in only five per cent. of the cases were the offspring similarly affected; while of three hundred and ten deaf mutes married to those who could hear, the proportion of affected offspring amounted only to one in one hundred and thirty-five (Buxton).

Another element of uncertainty pertains to the fact that cancer is rather a disease of adult life, and it is not yet established whether offspring born before the appearance of the disease inherit any liability to it. Williams reports two instances in which both parents were cancerous,

who produced seven children, of whom two died of cancer; also seven marriages in which only one parent was cancerous, from which resulted sixty-two children, of whom ten had the disease. Six marriages between those of whose parents none were cancerous, but in whose families there was a history of cancer, resulted in forty-one children, of whom eight became cancerous.

In this connection it is worth while to remind you of Broca's celebrated report, of the twenty-six descendants of a cancerous patient who attained or exceeded the age of fifty, of whom fifteen died of the disease. It is of interest also to remember that in families returning a cancer history, there will be a disproportionately large number of non-malignant tumors and cysts. Here, too, as in other instances, one generation may totally escape, while the disease appears in the second or even the third. When inherited it appears much oftener in females than in male relatives. Of interest, too, is Williams' conclusion that a large proportion of cancer patients are the surviving members of tuberculosis families, and history affords the corollary that no condition which can be inherited better predisposes to cancer than that which also predisposes to tuberculosis. It appears, moreover, that in families in which cancer has prevailed there is a striking evidence of fecundity, the average number of children throughout being 4.6 to a family, while in one hundred and ten cancer families which Williams studied the children averaged 8 8.

THE GENERAL HEALTH OF CANCER PATIENTS.—Cancers appear to prevail largely in those who are subjects of hypernutrition, and this is true even of those who are survivors of tuberculosis families, to which there is no exception. Beneke has described cancer patients as having large hearts and arteries with small lungs, which is just the reverse of the condition met with among those predisposed to tuberculosis disease. Moreover, nutrition rarely suffers until late, at least among cancer patients, save in those whose alimentary organs are involved.

There is a general belief that a vegetable diet exempts from cancer, as compared with flesh eating; this may possibly be explained by the fact that the majority of a community among whom cancer is relatively rare cannot afford a meat diet, or it may be that a flesh diet actually predisposes to the disease. According to Beneke, cancers are rare in prisons, where animal food is not freely furnished and where the work is hard; Nevertheless, vegetarians are not exempt from the disease. Indulgence in alcohol, if it has any effect, seems rather protective than otherwise.

Some writers attach great importance to brain exhaustion, wear and tear of the nervous system, due to the habits of society people of the day, as causes of cancer. In spite of Williams' disclaimer, I am induced to think that brain fag certainly does so interfere with nutrition as to have a causative relation to the disease. Moore's view can be pretty generally accepted "that cancer is eminently a disease of persons whose previous life has been healthy, and whose nutritive vigor gives them otherwise a prospect of long life."

PREVALENCE OF CANCER AND ITS INCREASE.—In 1840, in England, the proportion of deaths from cancer to the total mortality rate was 1 in 129; in 1880 this had risen to 1 in 28, which shows that in England the

death rate from cancer is now about four times greater than fifty years ago. Williams estimates that at least 40,000 persons are now suffering from cancer in England and Wales, whereas in 1840 the number was only about 5,500. Should the disease increase in the future at the same relative rate, it will become one of the commonest of all. This augmented mortality corresponds with increase of population in wealth and improvement in general sanitary conditions. In Ireland, where this happy condition of affairs does not obtain to a corresponding extent, the cancer death rate has been much smaller and has shown no such marked increase. In 1861, in England, there were 376 deaths from cancer to the million of population; twenty-five years later there were 610. During this quarter of a century the number of deaths from phthisis per million has diminished to three-fifths of the number at its commencement.

In the twenty years from 1870 to 1890 the increase in mortality from cancer in England is as follows: In 1870, 384 to the million; in 1880, 468; in 1890, 590. Accepting these published figures from the registrar-general's report, it would appear that the mortality has increased by 53 per cent. Nevertheless, it is not quite so bad as this, because the diagnosis of obscure cases is now more accurate than it was twenty-five years ago.

From a tabulation of the deaths within our own State of New York during ten years, from 1885 to 1895, I find that during this time there have been reported 30,692 deaths from cancer. Doubtless in a few of these cases there may have been a mistake in diagnosis, which will, however, be abundantly atoned for, and more, by the deaths which were really due to cancer and ascribed to some other cause. In 1885 there were 1,882 deaths from this cause; in 1890, 2,878; and in 1895, 3,454. In other words, in the last year of this decade the total number of deaths from cancer was twice that of its first year—which may be interpreted as meaning that the death rate has increased much more rapidly than has the population. During this same decade, also, the number of deaths from all causes has increased only from 80,000 to 121,000. During the last five years of this decade epidemic influenza alone caused 35,000 of the 121,000 deaths. It will therefore be seen how rapidly the cancer death rate is creeping up.

In 1892 Haviland published a monograph, in London, on the "Geographical Description of Heart Disease, Cancer, and Phthisis in England and Wales," in which he maintained that where cancer is most prevalent the country is low and traversed by rivers, which frequently flood the adjoining country; whereas cancer is relatively scarce in mountainous regions or where floods do not occur, and where the subsoil is either hard or absorbent. Thus he found that the Thames runs through a vast cancer field, excepting only where the chalk crops out. Williams, however, states that this cannot be true of all low-lying countries, and seeks to explain the prevalence of the disease in the valley of the Thames by conditions of life peculiar to its population. He calls attention to the fact that cancer mortality is lowest where the struggle for existence is hardest, the population densest, the general mortality highest, the average duration of life shortest, where sanitation is least perfect, and the

death rate from tuberculosis highest—in other words, among the working classes—whereas the cancer mortality is greatest among the agricultural community, where people are well-to-do, and where the standard of health is highest and of life easiest. He believes the most potent factors in the causation of cancer to be high feeding and easy living, and that the farmer is in general better off than the city laborer, but more liable to cancer. So, too, in London, where the cancer rate is highest, it is significant that this is particularly true of those parts where the wealthy most abound.

CAUSES.—When we come to consider more in detail the causes of cancer, we shall have to discard without the slightest hesitation most of the theories which have figured in time past. We shall, in fact, find ourselves narrowed down practically to two. Cells arrange and disport themselves as they do when they form a cancer either in accordance with laws of heredity and atavism, showing ever a tendency to revert to earlier and simpler forms, or else because they are provoked to rebellion by the presence of intruding and extrinsic elements; in other words, we must explain cancer and tumor formation either on the embryonal and evolutionary basis or consider it a parasitic disease.

The traumatic origin of cancer must be based upon stronger evidence than exists to-day if it is to hold good for other than exceptional instances. Undoubtedly men are very much more subject to injury than are women, yet are not half so liable to the disease. Surely men are injured in the thoracic region oftener than are women, yet they suffer from cancer of this region only in proportion of 1 to 115 or 120. If mammary cancer were really caused by injury, the external parts would be certainly more frequently affected, whereas the reverse is true. Cancer for the most part begins as a solitary affection, which would not be the case were it of traumatic origin. If injury be made to figure at all as a cause of cancer, it must be mainly as a cause of sarcoma, since sarcoma can be once in a while traced to such accident. In this consideration I would put epithelioma in a distinct category, since I firmly believe that prolonged irritation of a surface covered by squamous epithelium and frequently infected may produce an epithelioma as an expression of this fact.

That there seems to be, in some cases at least, a particular association between cancer and previous disease of the parts cannot be denied after Volkman's record of two hundred and twenty-three cases, from various sources, of primary cutaneous cancer of the extremities, in eighty-eight per cent. of which he found that there had been pre-existing disease of the part involved; though it must be said that others have not found anything like the same percentage of relationship. At best, then, we can only say that chronic nutritive or infectious lesion cannot necessarily be regarded as antecedents of cancer.

Rindfleisch long ago called attention to what he called the infectiousness of epithelial cells. If it can be shown that he spoke with prophetic accuracy, then the parasitic theory of cancer is established. If, on the other hand, this was but a happy expression showing how epithelial cells react upon each other, then the phrase has no meaning, and was simply an allusion to the metastatic spread of cancer.

(To be concluded in next issue).

MEDICINE.

IN CHARGE OF
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IN THE DISSECTING-ROOM.

A DIALOGUE BETWEEN AN OLD PHYSICIAN AND HIS SON, A STUDENT OF MEDICINE.

BY PETER ROSEGGER.

Long before the vacation began, he came home. His boots spattered to the very tops with mud, his hat soaked by rain even to the very lining, and an eye flashing nervously and angrily as he stood before his father.

"Who is this, then?" asked the latter, grasping the tip of his long beard and rubbing his old eyes with it. "Can this be my Adalbert?"

"Father, that's who it is. I'm sorry to say it is, father."

"Then the university is burned out?" said the old man.

"No, the university still stands. It is I that am burned out."

The old man grasped the youth firmly by both shoulders, as though to shake him. But as the young man scarcely moved at all, he said: "This is not ashes. Not at all. This is one who has a solid framework in his body. Perhaps it is in your pocket that things have gone wrong?"

The youth had thrown his soaked hat into a corner, and himself upon the sofa.

"You may have a calf butchered, papa; I come as a prodigal son. That is—no, have me butchered. I am a prodigal son. I shall be one and remain one. There is no repentance in me. Let the calf live; but let me have a drink, I am thirsty."

The old man went up to him and laid his hand upon his b ow: "Is it possible that anything is out of tune here?"

"It is out of tune *here*," said the young man, pointing to his heart.

"O yes, I see—in love," laughed the old man. "And for that the long trip in this beastly weather? Good, my son, that you value so highly the blessing of your old father."

"The blessing will grow stale before I find a sweetheart."

"Not that, then? An Adonis of twenty, and not in love? For shame! A healthy medical student, and not in love?—Boy, you're studying anatomy, aren't you?"

"No, father. That is just it. I am no medical student. I am not studying anatomy. And that is why I am here destroying your pet ambition, poor, dear father!

The old man filled his pipe; it had a stem so long that he handed the match to his son: "Be so good as to start the fire." When he had taken several whiffs, and the blue rings were wavering about his grey head, he said: "So not a medical student! Well, why not, please?"

"To make it short: I can't stand the infernal dissecting-room."

"You can't stand the in—"

"—fernal dissecting-room. It sickens me."

"O, you dear baby you! that passes off in a few days."

"For four weeks I attended. Then again for four weeks. The last day was even worse than the first."

"Do you expect me to believe that?" asked the old man, imperturbably. "Why, you have often helped me bravely with surgical operations at home. No dread of blood, no blood-poisoning. Why, a cadaver is nothing in comparison."

"God forbid that a cadaver should sicken me," cried the youth, springing up from the sofa. "It is the infernal *frivolity* that sickens me. Say, father, am I sentimental? Was I ever?"

"Like a golden russet in September! That is about my idea of your heart. Sentimental? Not that I know of."

"Or am I a scoundrel?" snorted the young man, pacing up and down the room. "And if everything that goes on in the world is done or is said to be done for the sake of mankind—every calling, every science—or isn't it so?—what sort of a physician is that that has no respect for mankind! If I am to respect the human being in myself and in others, I cannot be entirely irreverent toward a dead body. God knows, I cannot! And if I despise the dead body like a—like a—I don't know what, then the living body is—mere dough! Yes, father, yes! Then I renounce medicine and shall become a soldier, or a hermit, or any arabesque in society."

The old man took a deep pull at his pipe and looked at his son with a smile. He even nodded his head a little. "Now I really begin to see clearly, Adalbert, that you were born for a physician."

"I can't scream louder," replied the youth, "if you don't understand me now — — —"

"Ah, how well I do understand you, my son! They write to a hospital: Request for three bodies, female if possible, at six florins. Good. The boxes come and are opened. The servants load the stiff, naked body upon his shoulder as a butcher carries a dead hog. On to the ice with it! The extremities upon the dissecting-table for the first-year students, the trunk for— "

"Please don't, father, it is horrible."

"It certainly is not poetical, my child. But it is necessary. Are young people to study anatomy on manikins? Or is this science really unnecessary? Does it only serve to satisfy idle curiosity, or at best the perfection of knowledge, and practically has the physician, who of course cannot take his patient apart like a clock, no use for anatomy? Is it possible that you have been taken by such silly phrases as these?"

"Indeed, I have not! The most thorough study of the human body, not in books, but in practice, is the first requisite for a physician. Certainly, that is clear."

"Well, then, young gentleman, what do you want?"

"Another profession."

"Since you are so delightfully inspired for the dignity of humanity,—what profession do you mean, which is so entirely filled with respect for others? Politics, perhaps? Or stock-broking? Name a calling, please, which demands greater sacrifices on behalf of mankind than that of medicine. One of these sacrifices, for instance, is so great that my young medical student is about to desert his colors because of it. Because out of respect for human kind he is repelled by the thought of making examinations of human bodies. Moreover, my boy," added the old man, laying his pipe on the table, "I had precisely the same experience thirty-five years ago that you are having to-day. My feeling the first time I entered the dissecting-room was one of rebellion. The brutality of the performance, and besides many a jest of thoughtless boys with the bodies, and the vulgarity of it all! Mere butchery! And these 'subjects,'—were they not human beings who a few days before had been living and suffering like ourselves, animated like us by the same ideals, spurred by the same 'demons'! This dead man to whom I am applying the knife mechanically,—is not some mother-heart weeping for him? Or some inconsolable widow, or a deserted orphan? How faithfully this body may have been nursed, how modestly veiled and guarded! And now! On every highway the hurrying crowds bare their heads for a moment when a funeral passes along; the cemetery is a sacred place in all the world, even when all that rest in it are strangers to us. Everywhere the dead are respected, but not in the dissecting-room. A joyful 'Ah!' runs through the ranks of physicians and students, if the cadaver reveals an abnormity from which a human being had suffered untold misery and finally perished. And when I saw how they buried into the vitals,—Adalbert, I felt their knives in my own breast. And I felt for the outstretched dead, thinking: If that were my father, or my brother, or my son! So it came about one day that they carried me out of the hall in a swoon — — "

"And yet you went back?" the youth exclaimed.

"And yet I went back," replied the old man calmly. "I thought: Consider, if you think that there is too little reverence in the dissecting-room, you must simply carry some into it. At least for your own personal use. Many a calling is sadly vulgar, yet man can consecrate it. For coarseness in general, abominable, despicable coarseness, you will never be able to banish from the world. There are vulgar creatures everywhere, even in the temple of knowledge; and men of refinement, even in workshops and mines. The right man consecrates his calling and his work himself. Even if the work is only for money and property, for worldly vanities, man can by a good thought give it a noble meaning. The miner, as he goes down into the earth, says: A happy return! The peasant who sets plough to the sod, says: In God's name! The sailor puts out to sea with an appeal to Mary! So they all have their phrases and their prayers with which they refresh their hearts lest they perish and turn to stone. The young physician, of all persons, must not let his heart perish and turn to stone; he needs it too much for the suffering

brothers and sisters to whose welfare he has consecrated himself. And so I, too, devised me a phrase, a prayer, for the dissecting-room. It did me good service."

"May I know it?" asked the son.

"You shall know it, Adalbert; you should have hit upon it yourself. You can interrupt your promenades through the room a moment and listen to me quietly. It is a very short lesson. Listen. When I entered the room, and before me on the table lay the form with the dull, yellow, waxy gleam, stark naked, cold as clay, clean shaven, the sunken eye fixed, the features expressionless, robbed of all humanity—then I thought: 'Thou dear, fortunate dead man! While the most of thy kind must be given over to the earth straightway, thou art chosen to be useful to men even in death! Through thy remains, before they turn to ashes, the flames of knowledge and intelligence will be kindled, of power and performance for the common weal, so that from thee, thou dead body, new life shall pass into the limbs of the sick. Thou art chosen to contribute to the welfare of humanity. I honor thee!'—Behold, my son, this thought made me strong. Protected by this thought, my heart escaped the danger of growing brutal in the dissecting-room, and thus protected, I think I saved for the sick-room what little idealism I had."

"That sounds different," said the student. "Perhaps I will change my mind after all. But why doesn't the professor from his desk talk of these matters?"

"Why, there has to be something left for the father to say."

SOME EXTRACTS FROM A PAPER ON ARSENIC.

BY WILLIAM MURRELL, M.D, F.R.C.P.

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Arsenic, or to speak more correctly, arsenious acid, is not only a powerful poison but is a valuable remedial agent.

The Aqua Tofana made and sold by the iniquitous Tofana or Tophiana, who is supposed to have poisoned with it more than six hundred people, including two popes, Pius III. and Clement IV., was made by rubbing white arsenic into pork and collecting the liquid which drained from it during decomposition. It is probable that in the process a ptomaine or cadaveric alkaloid was formed possessing properties of the highest degree of toxicity. Long after Tofana's death it continued to be made at Naples and to be distributed secretly throughout Italy. It was used by Hieronyma Spara, an old fortune-teller who was presidentess of a society of young married women whose diversion it was to poison their own and other women's husbands. Marie de Brinvillier's poison contained arsenic, and it was the active principle of the *poudre de succession* or inheritance powder for which at one time there was an extensive demand.

In more modern times the drug when used for criminal purposes has usually been obtained by washing it out of "fly papers." The secret

assassin has some difficulty in obtaining so deadly a poison by open purchase, for in most countries it is enacted that arsenic must not be sold retail unless mixed with a certain proportion of either indigo or soot to color it.

Arsenic enters largely into the composition of various articles of domestic economy and was at one time a constant constituent of colored wall paper. It is often added to common candles to give them a wax-like appearance. It is used in the binding of books, and the dust which collects on the top of the book-cases in libraries often contains considerable quantities of arsenic. It is a frequent constituent of the outside wrapper in which cigarettes and tobaccos are sold, and it is also used in coloring carpets, advertisement cards, playing cards, India-rubber balls, dolls and children's toys, artificial flowers, sweets, hat linings, gloves, and a number of other instances. There is an impression that arsenic is a common ingredient of the "face powders" used for the complexion, but in conjunction with my colleague, Dr. Wilson Hake, I have recently looked into the matter and find that although zinc, bismuth and lead are often present, arsenic is uniformly absent.

Cases of chronic arsenical poisoning are very common, and too frequently are not diagnosed. The patient may suffer from nausea and vomiting, loss of appetite, diarrhœa and pains in the abdomen, or conjunctivitis may be the prominent symptom. Not infrequently he develops a cough, spits blood, suffers from periodical attacks of dyspnea and rapidly wastes away. This condition has been more than once mistaken for phthisis even by well known clinical physicians and pharmacologists.

The injury to the health which has resulted from the use of articles of clothing containing arsenic has more than once given rise to actions for compensation. The most recent trial of this description was held only a few weeks ago at Croydon, Eng. A lady purchased at a store some green glazed linenette, and in the process of making it up suffered from symptoms which were attributed by her physician to arsenic, the drug being subsequently detected on analysis.

As arsenic is in such common use its quantitative estimation is a matter of considerable importance. The tests usually employed are Reinsch's and Marsh's. It is commonly supposed that they are of extreme delicacy and accuracy, but of late considerable doubt has been thrown on the correctness of the statement. For example, in the linenette case to which reference has been made, Dr. Bernard Dyer found that the fabric contained one two-hundredth of a grain of arsenic in the square foot, or approximately one-twentieth of a grain in the square yard, whilst Dr. Stevenson, the official analyst to the Home Office, found only one-thousandth of a grain in the square yard. Dr. Stevenson employed Marsh's test, and Dr. Dyer commenting on the results obtained, says: "Under some circumstances not yet well defined there is in my experience some degree of uncertainty in Marsh's test when it is relied upon for the quantitative estimation of such very minute quantities of arsenic as these." It is difficult to over-estimate the importance of the statement from so well known an authority, considering the frequency with which arsenic is used for criminal purposes and the absolute reliance which is usually placed on expert evidence.

TUBERCULOSIS AND CLIMATE.

BY E. T. CAMPBELL, M.D., TABOR, IOWA.

Nothing within the whole range of medicine has given the physician more discouragement and heartache than tuberculosis; and nothing does he hail with more joy than a treatment which gives promise of better things—that gives promise that that dreaded disease may be stayed or modified if not cured. Not a drug listed in our pharmacopœia but has had its brief day as a champion for first place in the cure of this disease, only to be retired after a short time to the place it formerly occupied; some to appear for a second trial, with like results All the solids, all the liquids, and all the gases have in turn been "weighed in the balances and found wanting." Many, it is true, have won permanent places as aids to alleviate certain conditions or symptoms, but one and all have been denied first place.

The discoveries of Koch mark the beginning of a new era in the battle with this prince of destroyers. Founded on this established truth, investigation and experimentation have established a more rational line of treatment. In place of the empirical administration of medicines, we now have a definite object in view, viz., the destruction of the bacilli and the repair of the damage done.

Until recently the disease-resisting power of the system has not been sufficiently considered, the germicidal properties of the white blood corpuscles have been overlooked; but now the plan of treatment is to assist nature in her battle with the countless millions of enemies which are besieging the portals of our being, and the question now is: "In what way can we most quickly and safely help nature to shake off her enemy and repair the breach?"

Our most efficient means at present are climate, hygiene and diet. We find that in low, moist localities, with great extremes and sudden changes of temperature, great humidity, and dearth of bright sunshiny days, this disease works deadly havoc; whereas in localities of higher altitude, more sunshine, lower humidity, less variation and fewer degrees of temperature, and better drainage, the disease is arrested and often cured.

Too great an altitude is not to be advised, as it is dangerous save in incipient cases in which there is no associated heart trouble, an altitude of from fifteen hundred to two thousand feet above sea level being better in a vast majority of cases than much higher altitudes.

A uniform temperature also is to be sought for, not too cold in winter or too hot in summer, and freedom from sudden changes and a large proportion of bright sunny days.

Above all, climate must not be taken in given doses, like medicine, but continuously, *ad infinitum*. Those affected should seek a desirable climate to live in, not to get cured in, for innumerable subjects apparently cured have returned to their former homes only to have the disease return.

One essential factor in the climatic cure of tuberculosis has been touched on only slightly, and that is the presence of ozone in the atmosphere of those elevated regions. Ozone we know to be a powerful disinfectant and respiratory stimulant. In a recent paper read before the Iowa State Medical Society, Dr. Braunworth spoke of the purifying effects of the electric arc light, attributing this effect to the light itself, whereas the purification was due undoubtedly to the ozone produced by the electric current.

It is a most important factor in the treatment of any disease, and especially tuberculosis, that the patient's mind be as free as possible from all worry; and patients with limited means cannot gain the advantages of curative climates when the expense thereof is beyond their means, or so great as to be a source of worry and anxiety to them.

In a meeting of the New York State Medical Society, one member suggested that in the place of consumptive hospitals we have consumptive farms; and this will surely prove the keynote to success in the treatment of this disease. To live continuously in the pure ozone-permeated air, with good wholesome food, water and plenty of exercise, cannot but work wonders.

And the exercise should be of a constant, not periodical character. If possible, the patient should be continuously in the fresh air, attending to work about a farm if possible; if not, then wandering at will over the hills, botanizing or geologizing; or bent upon some object. Above all, let the mind be constantly diverted from himself towards some interesting occupation.

Hygiene, in conjunction with a favorable climate, is essential. Frequent bathing and well-ventilated rooms both day and night, good wholesome food, pure water, and good drainage, combined with a suitable climate, will prove our most efficient means of combating this most dreaded disease.

CUTANEOUS ACCIDENTS.—The burns of the stage of rubefaction and sometimes of slight vesication, produced by exposure to the rays of the sun, of persons unaccustomed to outdoor life, are common to summer tourists. The recognition of the fact that this accident is a genuine burn renders its treatment readily understood. The numerous cold creams and other unguents sold in the apothecary shop serve well enough, but nothing can be better for general use in these cases than the carbolated petrolatum everywhere available.

The same may be said of the lichen tropicus or "prickly heat," to which delicate skins are subject in hot weather. The intense itching of this trifling but exceedingly annoying affection is also usually readily brought within the limits of endurance by carbolated applications. The little jar of carbolated petrolatum is a most advantageous constituent of every tourist's summer outfit.

The more severe inflammation produced by contact with the various species of rhus, the "poison ivy," the "poison oak," and the "poison sumach," is often temporarily treated with advantage in the same manner. These injuries, however, pre-eminently come under the category of mat-

ters in which the "ounce of prevention" is particularly applicable, and it is well for persons going into the country for an outing to be able to distinguish them from the harmless growths which they resemble. The beautiful woodbine or Virginia creeper is distinguished from the venomous "poison vine" by the fact that the leaf of the harmless growth consists of five leaflets given off from a common stem, while that of the toxiferous plant has but three leaflets upon the main stem. The "poison oak," or rhus toxicodendron may be detected by the same conformation of leaf. The "poison sumach," or rhus venenata, which produces a cuticular inflammation similar to those already mentioned, may be distinguished from the ordinary harmless sumach by the fact that, instead of bearing close bunches of red berries at the end of its branches, its fruit consists of slender clusters of small white berries given off from the axils of the leaves.

THE DORENWEND TRUSSES AND ORTHOPÆDIC APPLIANCES.

Oftentimes physicians meet with cases of rupture and deformity which cause much anxiety; it being quite difficult to secure appliances to suit perfectly. It will be a relief and a pleasure to learn that by submitting a diagnosis of the case to Mr. C. H. Dorenwend, of the Dorenwend Truss Co., Toronto, appliances will be designed and constructed to meet all requirements. Mr. Dorenwend is a thorough genius and has developed ideas in mechano-medical and surgical work, which places him as worthy of the confidence of every physician. We do not hesitate to say that his trusses are the best we have seen. They combine so many improvements over the average, that physicians should instruct hernia patients to wear them. Perfect security and comfort is assured in every case. Mr. Dorenwend also makes a superior line of appliances for the correction of club feet, bow legs, knock knees, etc. His manner of preparing plaster jackets is certainly a good scheme. The practitioner applies the plaster in the usual way, and after it becomes hard it is sent to Mr. Dorenwend, he covers the whole cast with a light, strong material, which prevents cracking and crumbling, besides, is much easier on the patient. We recommend physicians to communicate with Mr. Dorenwend whenever anything in these lines is required, as we are confident he can give the best of satisfaction.

THE TREATMENT OF DIABETES.

Moussé has arrived at the conclusion, *Sem. Med.*, that antipyrin should not be employed in diabetes. He has used it with the object of diminishing the excretion of sugar, uric acid and urea, and found that the diminution was very evanescent. Beer yeast proved of no service in his hands. The same observation could be made to the use of pancreas in the fresh state. The real treatment of any service in diabetes is diet. If drugs are used their effects should be carefully watched, as they are often harmful. Moussé noted that each time he had given pancreas it had appeared as if loss in weight were retarded.

PAHOTLOGY AND BACTERIOLOGY.

IN CHARGE OF

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SERUM DIAGNOSIS IN RELATION TO TYPHOID FEVER.

Drs. Wyatt Johnston and D. D. MacTaggart (*Montreal Med. Jour.*, March, 1897,) reports some details concerning technique, which they find necessary in order to insure successful results in serum diagnosis by the dried-blood method, with which the authors have now treated over 500 samples of blood.

The results obtained were as follows:

1. Out of 129 cases, which there were good reasons to regard as true typhoid, exclusive of a few cases where the first samples were taken at a very early stage and no re-examinations could be obtained, and also a few cases first examined late in convalescence, the authors have met but one apparently genuine case of severe typhoid, which, when re-examined under satisfactory conditions, did not give a decisive reaction by the dry-blood method, and this one also gave no reaction by the serum method. Occasionally the first appearance of the reaction is delayed beyond the end of the first week.

2. The authors have never met a well-marked reaction under conditions where there were not strong reasons for believing it to be due to typhoid.

3. In a few cases where the result of the blood-examination remained in doubt the mild type of the fever made an accurate clinical diagnosis impossible. In such cases, the authors believe bacteriological examination to be the most exact method of procedure.

4. The authors have not yet met a case of typhoid where a decisive reaction was obtainable by the serum method and not by the dried-blood method.

5. The authors found that pseudo-reactions may be avoided by attention to the character of culture-media. By using an attenuated or quiescent stock-culture grown at room temperature, and transplanted at intervals of about one month, a suitable degree of sensitiveness was obtained. From such stock-cultures a 24-hour bouillon at 37° C., with a moderately diluted blood-solution, or serum, would give prompt and decisive reaction within a few minutes in the case of typhoid patients, while concentrated solutions of non-typhoid blood, or serum, were found to give no reaction, even at the end of twenty-four or forty-eight hours; hence, estimation of the amount of dilution is not necessary for ordinary diagnostic work.

The writers have stated elsewhere that highly active cultures, if left for a few hours longer than usual between the times of transplantation,

rapidly undergo involution changes, and while in this condition are far more liable to show agglutination than was the case with the same culture tested a few hours earlier. Bouillon-cultures which have stood long without transplanting, show a tendency to spontaneous partial clumping, which is quite absent during the first twenty-four hours. For this reason they prefer to use 24-hour bouillons, which are free from sediment, for the test. The peculiar disintegrations obtained by Pfeiffer in typhoid cultures, placed directly in the peritoneum of a specially immunized animal, do not tend to occur where the serum is tested in vitro by the hanging-drop method. With blood-solutions, however, this peculiar phenomena is frequently witnessed. The change is more liable to occur in cultures some days old than in young cultures, and more, perhaps, with attenuated than virulent cultures. It does not occur with all samples of typhoid blood, and is not well marked in very dilute blood-solutions.

Quantitative estimation of the degree of dilution in the case of blood-solutions is possible by hemometry as well as by making direct measurements. With samples of freshly dried blood, sufficiently accurate observations can be made to express the degree of dilution in multiples of 10—($\frac{1}{10}$, $\frac{1}{20}$, $\frac{1}{50}$, etc.). The exact estimation of the dilution, while interesting for scientific purposes, is not necessary for the practical purposes of the test, if attenuated cultures are used, and the establishment of fixed arbitrary time limits, as recommended by Grünbaum, seems only of use in avoiding pseudo-results, due to the use of highly virulent cultures.

Owing to the greater sensitiveness of blood-solutions as compared with typhoid serum, there is a greater tendency to pseudo-reactions if active virulent cultures are used, than is the case in working with serum. Cultures which exhibit darting movements in hanging drops are too sensitive for the dry-blood test. Those cultures having a quiet but rapid gliding motion in hanging drops have given uniformly good results. If the movements of the cultures become sluggish, one or two daily trans- plantations at body temperature will make them more active and sensitive.

Clean preparations containing very little fibrin can readily be obtained if care is taken not to stir up the film of blood-clot, and to use plenty of water for dissolving. The routine method of testing employed by the writers is to place a large drop of water from a capillary pipette on the film of dried blood and let it stand for a minute or two. A loopfull of the solution so obtained is taken *from the top of the drop* and mixed with a loopfull of the bouillon-culture, or may, if desired, be diluted further.

The reaction with the colon bacillus can be tested with ease by placing a duplicate drop of blood-solution or serum on the cover-slip with the drop to be tested by typhoid culture and mixing it with a drop of colon-bacillus culture. Pseudo reactions can be avoided by using stock-cultures kept at room temperature, and transplanted infrequently. Test cultures grown in bouillon from the stock at room temperature for twenty-four hours are free from scum or sediment, and give reliable results.

The authors formulate their conclusions thus:

The difference in reaction observed between typhoid blood-solution and blood-serum is not simply due to varying intensity, but to an alteration in the relative prominence of the agglutinative, paralytic and disin-

tegrative phenomena which constitute the reaction. The extent of this difference also varies with the virulence of the culture, but the difference probably depends also on the presence of part of the specific substances elsewhere than in the blood-serum.

Blood-solution has a greater capacity than blood-serum for producing the disintegrative (bacteriolytic) changes described by Pfeiffer. Descriptions of this phenomena are conspicuously absent from the many recent accounts of the reactions with typhoid serum as observed in hanging drops.

The paralytic effect is apparently more marked with serum than with blood-solutions.

Agglutination without stoppage of motion is more readily occasioned in virulent cultures by blood-solution than by serum, and does not indicate existing typhoid.

It appears preferable that for the dry-blood method only attenuated cultures should be used. These have the advantage of being more easily kept in readiness than virulent cultures, and are less sensitive to changes of temperature With the serum method, virulent cultures give prompt results. Dried blood-serum can be readily obtained and transmitted to the laboratory by pushing aside the edge of a blood-drop which has clotted for a few minutes but has not dried, and collecting the serum beneath it on the tip of an ivory vaccine point. This does not, however, give a quantitative result.

For ordinary diagnostic purposes, the simplicity of the method as originally described does not require modification, provided attenuated cultures are used.

A drop of the solution obtained from a dried typhoid blood-drop, mixed with a drop of the culture, will give the reaction promptly, without any special attention to the degree of dilution. In order to obtain the best results, it is well to dilute freely, and especially to avoid having a sticky solution of syrup-like consistency.

In cases where the clinical type strongly resembles typhoid, and where the serum does not give the typhoid reaction, a decided reaction with cultures of the colon bacillus may explain the symptoms.

The authors' results with the dried-blood test have been very satisfactory, giving uniformly positive results with genuine and well-marked typhoid cases, and not reacting with non-typhoid bloods when attenuated cultures were employed.

Although the use of serum undoubtedly enables the results to be recorded and compared with greater scientific precision, dried-blood answers just as well for routine diagnostic work.

The alterations in reaction, induced by very slight modifications of the manner of testing, help to explain differences in the results reported by experienced and careful observers. With the same blood and culture, the amount of dilution possible largely depends on whether plain bouillon, bouillon culture or water is used for diluting. The authors do not think that anything less than complete clumping and total arrest of motion, obtainable by the dry as well as the moist test in a young attenuated culture, should be regarded as a typical reaction.—*American Medico-Surgical Bulletin.*

R. KELLER, in the *Deutsche Archives für Klin. Medicine*, Bd. LVIII., p. 386, reports a case of malignant endocarditis of the pulmonary valves after gonorrhœa. Reference is made to the case of Blamer and Thayer, of Baltimore, from the blood of which the gonococcus was obtained in pure culture during life, and confirmed at autopsy.

Keller's case is from the clinic at Freiburg. Four weeks after the onset of the attack of gonorrhœa, there were rheumatic pains in the joints of the lower extremities, and later there appeared the evidences of an endocarditis of the pulmonary valves. Death occurred after six months, and at autopsy a warty and ulcerated condition of the pulmonary valves was found, with thromboses in the left ventricle, and emboli in various parts.

In the pericardial fluid, in the growths on the pulmonary valves, and in the kidneys, streptococci were found. No gonococci were present. The author considers the inflamed urethral mucous membrane the point of entry for the infection, there being no other primary focus to be found.

R. PIAGET.—The means of defense of the nasal fossa against bacterial invasion, *Ann. des Malad. dé l'oreille, 1897, No. 2.* The author has found on examining the nasal cavities of healthy persons, that only at the entrance are micro-organisms to be found in any number. Thomsen and Hewlett have shown that in the anterior quarter, on the extremity of the inferior turbinated bone and septum, but few bacteria are to be found, and that in the posterior part of the nose the mucous membrane is wholly free. In killed animals (dogs, rabbits) the nasal secretion, or small bits of the mucous membrane, in 50% of the cases, proved to be sterile or containing very few bacteria. Further, the author studied the bactericidal power of the nasal mucus. He succeeded in showing that the power of growth of the anthrax and diphtheria bacilli was suspended under the action of the normal nasal secretion. In a similar manner, but not so markedly, was this effect seen in the case of the staphylococcus pyogenes aureus, the colon bacillus, typhoid bacillus and streptococcus pyogenes.

The author believes that the nasal cavity, under normal conditions, is an aseptic space. H, C. P.

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NOSE AND THROAT.

IN CHARGE OF

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SOME CRITICAL AND DESULTORY REMARKS ON RECENT LARYNGOLOGICAL AND RHINOLOGICAL LITERATURE.

BY JONATHAN WRIGHT, M.D., BROOKLYN.

The fact that many people with normal upper respiratory passages are found to have in the secretions of these cavities the diphtheria bacillus of Loeffler is one of a series of observations which is slowly tending to modify our earlier conceptions of the relative importance of bacterial influences in the ætiology of diseases with which they are associated. Several years ago the subject of fibrinous rhinitis was extensively discussed in its relation to the diphtheria bacillus and to clinical diphtheria. At first it was supposed that the micro-organism was not present in this comparatively benign affection, but later observations show that in spite of the difference in the clinical histories of these cases from those of diphtheria of the nose the bacillus is found in over half of them. Recently several articles have appeared which carry us a little further. Meyer has lately reported to the Berlin Laryngological Society that he has found in a membrane produced by the galvano-cautery very virulent diphtheria bacilli. Out of twenty-two cases of fibrinous rhinitis examined, virulent bacilli of diphtheria were found thirteen times, streptococci and staphylococci nine times.

Vansant reports the results of a number of bacteriological examinations made of the nasal mucus of patients with various intranasal lesions: "The examination embraced a hundred and thirteen cultures of specimens taken from a hundred different patients. It showed the presence of the diphtheria bacillus in no less than thirty of the cultures examined, these cultures representing the discharges found in twenty-six different patients.

For each disease examined, the number of cases with diphtheria bacilli was as follows:

Eleven of twenty-five cases of atrophic rhinitis; three of sixteen cases of chronic purulent rhinitis; five of fourteen cases of rhinitis; three of seven cases of nasal syphilis; one of four cases of acute rhinitis; three of thirty-one cases of hypertrophic rhinitis; none in two cases of disease of the accessory sinuses; none in the one case of fibrinous rhinitis.

Possibly the author may "have mistaken the false for the true diphtheria bacillus."

Pluder gives perhaps the best review of fibrinous rhinitis which has been published lately, reporting six cases, the membrane in five of which was examined microscopically and found to contain the Loeffler bacillus. He is of the opinion that fibrinous rhinitis is a mild form of nasal diphtheria. The difficulty of classifying disease by ætiology is here illustrated. If we may have a fibrinous inflammation of the mucous membranes without the Loeffler bacillus, which I believe no one denies; if we may have the Loeffler bacillus on mucous membranes without diphtheria, which has been repeatedly demonstrated, since we have all degrees of severity of diphtheritic inflammation with the bacilli, which is a common observation, since we find virulent bacilli in mild cases of diphtheria, it certainly is a little difficult for the ordinary mind to regard the Loeffler bacillus as the most important factor in the ætiology of diphtheria. Apparently the most important factor in the ætiology is a systemic or intrinsic one. The great success of antitoxine in the therapy of diphtheria would suggest that a person has diphtheria because he is temporarily deprived of the antitoxine power of his own tissues. We may perhaps be allowed to conjecture that this is applicable to all diseases associated with the presence of bacteria. This is an old contention and scarcely worth detailing to this length were it not for the fact that even yet it is lost sight of far too frequently. It applies quite as closely to the question of the ætiology of sepsis and tuberculosis and pneumonia, except that we have not as yet the corroborative proof furnished by the extrasystemic manufacture of their antitoxines. It is not reasonable to suppose that Nature works in such a bungling way as to keep stored up in her magazines a separate antitoxine for every morbific germ. This is not according to what we are accustomed to find out about the economy of Nature. Any further speculation in regard to this point would be only vague surmise as yet.

Vedova, who a year or two ago, with Belfanti, reported the treatment of a number of cases of ozænic atrophic rhinitis with diphtheria antitoxine, because they found pretty constantly in the secretions the false diphtheria bacillus, contributes a paper to the *Archivio Italiano di otologia* (anno v, 1897) Upon the Differential Diagnosis between Chronic Rhinitis and Ozæna, in which he says: "I have studied bacteriologically a hundred and twenty cases of ozæna which I could collect from nearly all the dispensaries of our specialty in Milan. From the aggregate of this bacteriological study I am able to make the following assertions:

"1. The false (*simildifterico*) diphtheria bacillus is always present in cases of ozæna.

"2. In certain forms of ozæna the false diphtheria baccillus is alone, or almost so, and in such abundance and prevalence over other micro-organisms which may be present in the ozænatous crusts as to render very easy its isolation in characteristic colonies.

"3. In other forms the false diphtheria bacillus is accompanied by the *Bacillus mucosus* (Löwenberg-Abel), which is united with it in scanty proportions.

"4. In other forms the false diphtheria bacillus is very scanty and the *Bacillus mucosus* prevails to a marked degree, so much so as to render impossible the isolation of the former."

In conclusion, he says:

"All the above considerations and deductions made in the scientific and clinical field of rhinology lead to the following opinions and assertions:

"(*a*) The false diphtheria bacillus is a direct cause of chronic fœtid atrophic rhinitis, which, however, may also be due to other causes, at present unknown, and assume different clinical characteristics which may be confused with the rhinitis studied by us.

"(*b*) In the diagnostic field chronic fœtid atrophic rhinitis is differentiated by bacteriological examination, and by its not reacting in any beneficial manner to methods of treatment thus far employed.

"(*c*) The antiozænatous serotherapy is specific for chronic fœtid atrophic rhinitis due to the false diphtheria bacillus, and therefore, provided that it is applied in cases not far advanced and complicated by multiple infections and inflammations of the accessory sinuses, we may reasonably expect good results not attainable by other methods of treatment."

It is impossible to judge of the merits of this method of treatment of ozæna, but whatever they may be, we see here the tendency of the human mind to grasp at new and mysterious remedies on insufficient evidence of their efficacy, with a faith unshaken by considerations that should occur to every one. In the first place, it has not been proved that the false diphtheria bacillus has any other than a morphological and biological *resemblance* to the true bacillus, producing so far as we know no toxic effects, and therefore it can not be expected to react to the antitoxine produced by the toxine of the true bacillus. In the second place, the proof adduced of the ætiological relation of the bacillus to ozæna is shadowy and insufficient. In the third place, a specific for ozæna should cure the far-advanced cases as well as the incipient ones, since Nature at middle life seems to cure the most of them without trouble. It is not a mortal disease, and therefore can not be classed with cases of diphtheria and phthisis pulmonalis, so far as the argument goes of failures in treatment being due to "not seeing them early enough."

If ozæna is of bacillary origin we must look for the organism in the tissues. The idea of toxines saturating the mucous membrane, but engendered by the bacteria in the secretions, may occur to us, but we are far from any proof of such a hypothesis.

Lautmann has reported the treatment of a number of cases by antitoxine and seems to regard the method as having a hopeful future, but an analysis of his cases would hardly seem to bear out his favorable view of the matter. He had several unpleasant instances of the occasional after-effects of the injection of diphtheria antitoxine. He seems to regard atrophic rhinitis as having in its ætiology an element of trophoneurosis.

Aronsohn, in the *Archiv für Laryngologie und Rhinologie* (Bd. v, p. 210), contributes a paper to the much-debated question of primary tuberculosis of the larynx. He urges its frequency, and cites histories of several cases in support of his contention. He severely criticises those who

doubt its occurrence and those who deny its frequency. So far as I have been able to gather from literature, there are very few who deny the possibility of its occurrence. Indeed, this assertion would be unwarranted, for the author quotes three cases in his tables—those of Orth, Pogrebinski and Demme—in each of which tuberculosis was found in the larynx on autopsy and not in the lungs. His tables contain twenty-nine cases—the three above mentioned, seven in which autopsy showed tuberculosis of the larynx and of the lungs, but in which he considered the laryngeal lesion the primary one. The report of nineteen other cases included no post-mortem examinations, but were cases in which the diagnosis was entirely dependent upon the clinical history and the physical signs. This, of course, is a very unsatisfactory sort of evidence, and a strict criticism must exclude all but the cases in which the lesion was found on autopsy in the larynx and not in the lungs. Since, even in cases that die of pulmonary phthisis, a laryngeal lesion is only found once in ten to thirty cases, this is not an unreasonable criticism, but, on the other hand, very rarely does an opportunity occur to make an autopsy in a case of tubercular laryngitis in its early stages, the only period at which we should expect to find the lungs free. The matter may be summed up in a few words. No one can deny the rare occurrence of primary laryngeal tuberculosis. No one can prove its frequency.

In connection with this subject the paper of Massei, in the *Archivio Italiano di otologia* (anno v, 1897), upon the diagnosis of laryngeal tuberculosis may be read with profit. He thinks that slight and sometimes primary forms of laryngeal tuberculosis are frequently not recognized by even the experienced laryngologist. They may be taken for cases of simple catarrhal inflammation, obstinate in its course. Exclusion of syphilis by the results of specific treatment is always necessary. He urges also the advisability in some cases of removing pieces by curettement for microscopic examination, or even the intraperitoneal inoculation of susceptible animals. I doubt if this mistake in diagnosis on the part of the experienced laryngologist is of very frequent occurrence, but he points to the very evident fact that if we are to attain good results from any method of local treatment it is in these incipient cases. Massei maintains his skepticism as to the efficacy of any form of local surgical treatment in the vast majority of cases, in which I confess I am in accord with him. Skepticism in the therapy of any desperate disease is an ungracious and unpopular attitude of mind, but keeping the truth of facts constantly before us will frequently save us from many dangerous and misleading illusions, however eager we may be to entertain them from an ardent desire to benefit suffering humanity. The surgical treatment of laryngeal tuberculosis is thus referred to by the distinguished Italian laryngologist:

"But this skepticism, which was opposed by me and by others, to the enthusiasm of the brave pioneers who held aloft the banner of surgical therapy, is not an unreasoning opposition to his humanitarian cause; on the contrary, it has served to put us all in accord as to the limits within which local treatment is possible, and as to the criteria which should govern the indications for it."

In these reviews I have repeatedly deprecated enthusiastic claims as to the results of many forms of local treatment of laryngeal tuberculosis. Unfortunately, we can not in medicine, for obvious reasons, always follow Pestalozzi's famous maxium of "Try all things." We are only justified in trying those things against which our reason does not revolt. Tuberculosis at first may be a local disease, but when it comes under observation for treatment it is, as a rule, a general affection. We know that climatic treatment is the most successful. It is so because it apparently produces in the patient's system a tuberculosis antitoxine. When man learns to manufacture that antitoxine we shall have reached the beginning of tuberculosis therapy—it may be Maragliano's serum, or it may be Koch's tuberculine, or it may be something else—but bacteriology, if it has taught us nothing else, certainly should lead us to expect nothing radical from the knife or from drugs. It can not be denied that the surgical treatment of the tuberculous larynx has much in it to recommend it to us, as indicated for the relief of certain symptoms, such as obstruction and pain. To excise inflamed tissue removes the source of much irritation and the terminal filaments of sensitive nerves involved in the process, but it is possible for any one to believe that it removes the tubercle bacillus or renders the pabulum on which it thrives in the tissues unfit for its further development?

The question of tuberculous infection of lymphoid tissue in the fauces and the nasopharynx continues to excite considerable interest abroad. Its interest should not be limited to the narrow domain of laryngology, but the significance of recent observations should be appreciated in the broader field of hygiene and of systemic immunity. The somewhat extreme tendency of regarding the occurrence of tubercle or of the tubercle bacillus in the hypertrophied faucial and pharyngeal tonsil as frequent, and of immediate serious import to the patient when it is found, has not been supported by the later reports on the subject, because in the vast majority of cases it has been impossible to trace the outbreak of any systemic or pulmonary lesion to it. I have gone into the subject more extensively in a recent article in this journal, and have only to add here that it seems, from the evidence thus far presented, probable that the cases which end in disseminated and fatal phthisis do not have their origin in the lymphoid structures. Although tuberculosis may be first observed there in rare cases, it seems probable that the primary lesion has really been elsewhere and usually in the lower respiratory tract. Since the lymphoid tissue in the nose and throat is undeniably more exposed to infection from the air and food than are the pulmonary tubes, we are driven to the conclusion that there exists in the lymphoid elements of the respiratory mucous membrane a resisting power to the *Bacillus tuberculosis* far in excess of that offered by the pulmonary tissues, or we must conclude that the road of infection is by the way of the lymph, or blood-vessels of the intestinal tract in cases of phthisis pulmonalis.

Mouret, in a case suffering from similar lesions of the larynx and lungs, found tubercular tissue in the tonsils. Out of eighteen cases, Ruge found tuberculous tonsils in six. Of these, five had well-marked

pulmonary tuberculosis and presented every evidence that the pulmonary lesion was the primary one. The remaining one had large tonsils and subsequently cervical spondylitis, which was evidently tuberculous. The tonsils were then removed and found to be tubercular. Ruge thought the tonsillar lesion was the primary one. This it seems to me was not at all warranted by the facts as narrated by the author. None of these cases, I imagine, are to be considered as surely primary in the lymphoid tissue, but probably were secondary to other lesions. This secondary infection has long been recognized as of frequent occurrence. The chief interest at present is centred around the lymph tissue of the throat as the port of entry for the bacillus, where, establishing colonies, it may send forth by the lymphatic and blood estuaries emigrants to the lungs or elsewhere. In regard to this subject, no paper which has appeared in the last year or two in laryngological literature so well deserves careful reading and consideration as the one contributed to the *Archiv für Laryngologie* (Bd. iv, Hft. 3) on Primary Latent Tuberculosis of the Hyperplasia of the Pharyngeal Tonsil, by Pluder and Fischer. They review the literature of the subject, and give from it the following significant table of positive results obtained by others in examining the lymphoid tissue in this locality for evidences of tuberculous infection, together with their own results: Lermoyez, in thirty-two cases, twice; Gottstein, in thirty-three cases, four times; Brindel, in sixty-four cases, eight times; Pluder and Fischer, in thirty-two cases, five times.

The criticism of Cornil, that the tubercle bacilli may exist on the surface and in the crypts of tonsils and adenoids, weakens the force of the positive results attained through animal inoculation by Dieulafoy and others, but in all the cases referred to above actual demonstration of tubercle by the microscope was noted. It will not be thought, hypercritical, by those who know most of the subject, to suggest that the diagnosis of anatomical tubercle in lymphoid structure is not always a perfectly easy matter with the microscope, and so, perhaps, it would be well only to include those cases in which the microscope identifies the bacillus in the tissues as entirely free from criticism. This is almost always a laborious and difficult task. Pluder and Fischer found it in their cases. I have looked for it in a large number of cases, but have never found it, except in Dr Chappell's case, where the diagnosis was clear from the clinical history and from gross appearances. It can not be too strongly urged, however, that these negative results do not militate against the positive observations made by others.

The peculiar value of the work of Pluder and Fischer lies in the exceedingly common-sense view they take of their own important observations and in their shrewd criticism of the works of others.

Dr. Paul Manasse, in Virchow's *Archiv* (Bd. cxlvii., Hft. 1), speaks of the occurrence of giant cells in syphilitic growths of the nose. The significance of giant cells in chronic inflammation has been the subject of considerable discussion. A case came under my observation some time ago in which a diagnosis of malignant disease of the tongue had been made and a piece excised for microscopic examination. It contained a large number of giant cells in a tissue of low inflammatory origin. The

microscopic diagnosis was tuberculosis. A section of the growth was shown me and I agreed with this opinion. On seeing the case itself afterward, however, so characteristic were the clinical history and the appearances that, in spite of the microscopical evidence, which had been pronounced by a skilled pathologist as well as by myself as tuberculous, I had no hesitation in stating my conviction that the affection was of a syphilitic nature. The result of treatment subsequently proved the correctness of this view. I have lately had under observation a case of growth in the larynx of a somewhat peculiar appearance causing marked dyspnœa. Although the growth was supposed to be tuberculous, possibly lupus, the patient was sent into the hospital and put upon vigorous antisyphilitic treatment. There was very marked improvement from the first, but in the meanwhile slight physical signs of pulmonary trouble had been found in the chest, and a few tubercle bacilli were found in the sputum. The laryngeal lesion, however, has steadily improved, but has not entirely disappeared. Otherwise the case is rapidly running the ordinary course of pulmonary phthisis. I know that this will be thought an instance of mixed infection. There is no syphilitic history. The patient is a girl eighteen years old, and if there is a syphilitic element it is in all probability an hereditary one.

In these two instances we have examples of how even the most reliable of diagnostic resources may fail us. Manasse's paper contains a warning that a microscopic examination of such tissue without a demonstration of the tubercle bacillus leaves the diagnostician in some doubt, and this doubt can only be resolved by the administration of the iodide of potassium. As I have intimated, even this means is not always satisfactory. It takes considerable experience with syphilitic and other infiltrating disease of the nose and throat to form a correct opinion as to how much absorption to expect from the use of the iodide in syphilitic disease, and how much we frequently get in other infiltrations. A week's time is often not sufficient for this differentiation. After that time, however, we do not expect a cancer or a sarcoma or a tuberculoma to continue to recede; but in the laryngeal case I have mentioned the improvement was of much longer duration, although evidently tubercular. Manasse is of the opinion that the giant cells in syphilis arise from the capillary veins by the agglutination of protoplasm holding in its substance nuclei derived from the endothelium and probably from the white blood-cells.

Moure reports two cases of empyema of the maxillary sinus in infants three weeks old, due to the premature eruption of a tooth. One was a syphilitic child. In mentioning other cases in older children, he states that transillumination is of very little value in the diagnosis. In both infants the purulent process invaded the cheek and was operated on externally.

I have been somewhat surprised to note the predilection of the Vienna laryngologists for intranasal irrigation in empyema of the antrum. They claim that a very large proportion of the cases may thus be cured, and say that even operative procedures fail to relieve the obstinate cases except after many months of treatment.

M. Lavrand, in the *Revue hebdomadaire de laryngologie* (No. 35, 1896),

reports several cases of mutism in young children who heard well and whose intelligence was apparently up to the average or above it. No one can be in general practice very long, or practice laryngology even for a short time, without meeting with such cases in children from two to seven years of age. Their parents bring them, or their family doctor sends them, to have their frenum linguæ cut because they are "tongue-tied." One never sees such cases in children older than six or seven unless there is some mental deficiency well marked in other directions. As for cutting the frenum in these cases, it is about as rational and successful a procedure as the old Scythian custom of cutting the veins behind the ears for another purpose. Lavrand recommends "patient and systematic education." This, no doubt, is successful, but a more practical, less exhausting, and probably more successful method is turning them loose to play for several hours every day with prattlers of their own age. Bashfulness and a sense of their own deficiencies often restrain them in the presence of their anxious and critical elders.

Hobbs, in the *Laryngoscope* for March, 1897, under the title of Some Amusing Instances of the Nasal Reflex, speaks of having cured one or two cases of chronic priapism by cocainizing the nasal mucous membrane. Chronic priapism is a rare affection, and, judging from two cases which came under my observation many years ago, one which resists cure by the administration of drugs. It seems to me that Hobb's suggestion is one that should be borne in mind when such a case presents itself. The intimate relation of the erectile tissue of the nose to that of the penis in many points of its anatomy and physiology, and the inter-relation of the occurrence of turgescence in the two localities during sexual excitement, lends probability to the reported success of this method of treatment.

Massei makes a very interesting communication concerning peri-tracheo-laryngeal abscess in children, having observed several cases in which small abscesses had apparently formed beneath the mucous membrane during the course of a laryngeal diphtheria, or during some other inflammatory process causing intralaryngeal stenosis and necessitating intubation or tracheotomy, during the performance of which the condition was recognized. We are accustomed to keep in mind the influence of large bronchial glands upon pulmonary lesions and symptoms. Massei points out that there exists a small group of glands at the laryngo-tracheal junction, another one at the middle of the trachea, and an inferior larger group near the tracheal bifurcation. These may involve the recurrent nerve as well as the trachea, giving rise to symptoms dependent not only on tracheal obstruction, but upon paralysis of a vocal cord. That this occurs more frequently than we recognize it seems very probable. The difficulty of laryngoscopy in children, the occurrence of a concomitant laryngitis, either catarrhal or diphtheritic, no doubt frequently hides a small abscess of one of these glands pressing between the rings of the trachea or the tracheolaryngeal junction. This may discharge before giving rise to obstruction, having caused only hoarseness if it be one of the upper group which is involved, or, on the other hand, it may cause grave and even suddenly fatal dyspnœa. I have a case under observation at present in which I suspect this trouble following an ordin-

ary coryza. These cases have not been carefully enough studied to lay down any reliable rules of diagnosis or treatment, but Massei has been wise in calling attention to an affection which needs more careful consideration.—*New York Medical Journal.*

PHARYNGEAL ABSCESS: HÆMORRHAGE: LIGATURE OF CAROTID ARTERIES.

Mr. H. H. Clutton read this paper. The case was one of very severe hæmorrhage from an abscess in the roof of the pharynx above the right tonsil, which was eventually successfully arrested by the ligature of the common, external, and internal carotid arteries. A victualler, aged 28, was admitted into St. Thomas's Hospital, under Dr. Sharkey, on June 20th, 1896. The day after admission he bled rather profusely from an abscess in the pharynx above the right tonsil. On June 24th the soft palate was divided for the purpose of a complete examination of the abscess. A hole was then found passing through the wall of the pharynx into the tissues of the neck. This opening was enlarged and the cavity plugged with cyanide gauze, as it was thought from the character of the hæmorrhage that the bleeding might be from the internal jugular vein. During the night following this operation he bled so furiously that no doubt could be entertained as to the hæmorrhage being from a large artery, probably the internal carotid. The next day, June 25th, the bifurcation of the common carotid on the right side was exposed, and an animal ligature applied by means of a "stay knot" to the common carotid and its two branches. A saline infusion of two pints was given whilst the wound was being closed with sutures. The wound in the neck healed by first intention, and the abscess cavity in the pharynx was found by digital examination to have closed on July 16th. He had no further hæmorrhage after the ligature of the carotid arteries, and left hospital for a convalescent home on July 25th. Considering the difficulties in determining the exact source of hæmorrhage when it occurred from a pharyngeal abscess, it seemed to the author to be the safest practice to tie both the external and internal carotid arteries as well as the common carotid, since all three arteries could be reached through the same incision at the bifurcation. The necessity for tying two of them had been well shown by Mr. Pitt's paper in *St. Thomas's Hospital Reports*, vol. xii., and the addition of the third scarcely increased the length of the operation.

Mr. B. Pitts has seen a similar case 15 years ago in a man with tonsillitis, and discharge first of pus, then of a small and eventually of a larger quantity of blood. The common carotid on the affected side, which was only indicated by slight brawny swelling, was tied, but two days later the man had another hæmorrhage to two pints, and died. At the necropsy the internal carotid artery had been opened by an abscess. The occurrence of hæmorrhage so often after showed that ligature of the common carotid alone was ineffectual. He had performed experiments in

the dead-house with glass tubes inserted into the carotids, and water injections, which showed that the hæmorrhage which followed after ligature of the common carotid in the cases under discussion was the result of anastomosis between the branches of the external carotid arteries on the two sides. He therefore advocated ligature of the external carotid as well as of the common carotid. Mr. Clutton's plan of ligaturing the internal in addition to the other two was even better.

Mr. Harrison Cripps had read a paper before the Society nineteen years ago, discussing which vessel should be ligatured in perforating wounds about the face and throat. Generally speaking the common carotid was the one selected. He had performed experiments on the same lines as Mr. Pitts. His method was as follows: The right common carotid was ligatured and the facial artery on that side was cut across; water was then driven into the left common carotid artery, and issued from the proximal end of the cut right facial artery, showing that the anastomosis was between the internal carotids, and not between the external carotids. He advocated ligature of the external carotid low down. Analysis of 68 cases showed that ligature of the common carotid was followed by a high mortality, which was not due to sepsis, but to two causes: (1) Brain symptoms either coming on directly after ligature, or supervening some three or four weeks later; the brains of patients already anæmic from hæmorrhage being very intolerant of further privation of blood. (2) From recurrent hæmorrhage. It was very rarely that hæmorrhage came directly from the internal carotid; in only one case out of 68 cases did it occur. He insisted it was better to do the safe operation of ligature of the external carotid with every probability of success, and, if need be, ligature the common carotid later, rather than adopt the dangerous operation of ligature of the common carotid in the first instance.

OTOLOGY.

BY CHARLES STEADMAN BULL, M. D.

ANTISEPTIC TREATMENT OF SIMPLE CHRONIC SUPPURATION OF THE TYMPANIC CAVITY; SYSTEMATIC TAMPONING OF THE EXTERNAL AUDITORY CANAL WITH IODOFORM GAUZE.—Fongeray (*Ann. des mal. de l'oreille et du larynx*, June, 1895) draws the following conclusions from his observations:

1. The external auditory canal is a channel by which the middle ear often becomes infected by penetration of staphylococci into the tympanic cavity.

2. The use of the non-sterilized cotton tampons has been known to cause secondary infection. The method of exposure to the flame of alcohol saturated with boric acid is very simple and should always be employed.

3. To avoid the spread of secondary infection from non-sterilized cotton or dirty cotton, the external auditory canal should always be tamponed by iodoform gauze. The method is very simple, antiseptic, easy of application, arrests all germs contained in the air, and is well borne by the patients.

PAEDIATRICS.

IN CHARGE OF
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WILLIAMS, DAWSON: THE GLANDULAR FEVER OF CHILDHOOD.

Under the name "Glandular Fever (Drusenfieber)," E. Pfeiffer, in 1889, described a condition observed in childhood which he contended was an acute specific fever hitherto unrecognized. The symptoms of the disorder as noted by him and elucidated by subsequent writers are briefly as follows:

The patient, a child under fourteen years of age, becomes suddenly ill, the temperature is found to be raised—101° to 103° F.—there is anorexia, nausea, sometimes vomiting, coated tongue, constipation, and, perhaps, some ill-defined abdominal pain. The most prominent and characteristic symptoms, however, are stiffness of the neck, tenderness in the anterior triangle, and some pain on movement of the head and on deglutition. There may be some undue redness of the pharyngeal mucous membrane, but throughout the whole course of the illness nothing like definite pharyngitis or tonsilitis. On the second or third day a swelling is noticed in the neck, which is found to be due to three or four enlarged lymphatic glands, which can be felt beneath the sterno-mastoid muscle and along its anterior border. The temperature becomes higher and usually touches 104° F., and the ordinary symptoms of pyrexia are present. The glands, which are tender, remain swollen for from two to five days and then begin to diminish. The glands first affected are, as a rule, those of the left side, and the pain on movement may lead to the head being flexed toward that side. Before the glands on the left side have begun to subside, those on the right begin to enlarge, and in a day or two attain a size corresponding to that reached by those on the left side when at the maximum. Tenderness of the abdomen may be a very marked symptom, and in a large proportion of cases the mesenteric glands can be felt to be enlarged. The liver is enlarged almost invariably, and the spleen in more than half the cases. The other cervical glands may also become enlarged, the axillary and inguinal glands less often. The disease is mild, and is seldom or never the direct cause of death, but it leaves the child in an anæmic and depressed state, which may last long after all trace of enlargement of the lymphatic glands—which has usually ceased in ten days or a fortnight—has disappeared.

It is obvious that the specific characters of the disorder are not well marked. Enlargement of the cervical glands secondary to various local lesions is of so common occurrence in childhood that the specificity of Pfeiffer's "Drusenfieber" has not met with general acceptance. It can hardly be asserted that his arguments have been refuted; it would be more correct to say that they have for the most part been ignored. The author has for some years strongly suspected that this attitude was mistaken. He has seen in the out-patient department of the Shadwell Children's Hospital during the last few years a considerable number of cases answering to the description of glandular fever, but it is difficult in London to trace a history of infection in connection with any of the diseases of childhood, owing to the immense number of possible opportunities of infection. Occasionally, however, was observed several children of the same family to be affected in succession.

The most distinctive point is that the swelling and tenderness of the glands occur without obvious lesion of the pharynx and tonsils, and are altogether disproportionate to any slight pharyngitis which may be present. The several glands can be distinguished on palpation; the skin moves freely over them, and is little, if at all, reddened. The spontaneous subsidence of the adenitis is also noteworthy. The author has not met with a case in which suppuration occurred, and, according to all writers on the subject, this is an accident which does not occur, or occurs very rarely. The glands affected are, no doubt, those which are liable to become enlarged in affections of the pharynx; but tonsillitis causes at first enlargement only of the highest of the deep cervical glands—that which lies on a level with the angle of the jaw. If the lower glands become enlarged it is at a later date and to a less degree. The glands which first become enlarged in association with dental disorders are those which lie transversely along the inner aspect of the lower border of the body of the inferior maxilla. Even in acute pharyngitis it is, according to his observation, very unusual to observe an enlargement, sudden and almost or quite uniform, of all the deep cervical glands. Moussous lays stress on the severity of the general symptoms, which in one of the cases, he records, raised a suspicion of typhoid fever. In both the cases, which he gives at length, the child, on the third or fourth day of its illness, suffered from a paroxysmal cough ending in vomiting, but without the characteristic whoop or glairy expectoration of whooping cough. This appears to indicate that the tracheo-bronchial glands may be enlarged during the course of the illness.

Pfeiffer observed that the disease occurred in very limited epidemics, generally affecting a single family, but attacking most of the members who had not passed childhood. Those writers who, after Pfeiffer, have described cases, have laid stress upon the absence of any discoverable local lesion capable of accounting for the adenitis. The pain on swallowing is attributed to the enlargement of the glands, for pharyngitis, even when present, is only in very rare cases severe. Hesse, one of the most recent writers on the subject, reports three cases in the same family, all of whom suffered from severe nephritis. Heubner, Starck, and others, have recorded cases in which the same complication occurred. Hesse argues

that the existence of this complication is strong evidence in favor of the specific theory, and argues that the lymph-adenitis is either a manifestation of an acute specific disease *sui generis*, or of an abortive form of one of the exanthemata. He dismisses the second alternative rather lightly, but it may be observed that rubella is believed by some to occur occasionally without rash, but with marked swelling of the glands along the sterno mastoid muscle. Further, some evidence exists to show that mumps may occasionally affect the lymphatic glands of the neck without any discoverable inflammation of the parotid or other salivary glands. It is, the author believes, unnecessary to argue this point, because a recent communication made by Dr. Park West, to the New York Academy of Medicine, seems to refute all objections of this order. An extended abstract of Dr. West's paper is then given, the full text of which will be found in the issue of the *Archives* for December, 1896.

The incubation period cannot be stated positively. Hoerschelmann thought it was usually from eight to ten days in his cases, with extremes of five and fifteen days. Park West states that "many more children came down on the seventh day after exposure than upon any other day."

As to the pathology of the condition, there is, in the absence of any bacteriological investigations, much room for difference of opinion. Comby suggests that it is due to "an attenuated streptococcic infection, of which the point of entry is probably the surface of the tonsils." He would, therefore, appear to be opposed to the view that the condition should be considered an acute specific infection, and this seems to be the view also of Ashby and Wright. Comby, however, relies largely upon the observations of Neumann, who found staphlococci in certain glands which suppurated, and Comby also speaks of cases in which suppuration occurred. All other writers, however, comment on the absence of suppuration as a characteristic of the disease. The constant presence of obstinate constipation led v. Starck to advance the theory that the general symptoms and the adenitis might be due to infection derived from the intestines, or to the absorption of a toxin from the retained fæces. Dr. Henry Koplik, in the discussion at the New York Academy of Medicine, suggested that the earlier affection of the glands of the left side of the neck, which has struck most of those who have published notes on the disease, might be due to passage of the infective agent from the thoracic duct to the glands on the same side. On the whole, however, it seems probable that the infective agent, whatever it may be, obtains entrance by the pharynx or tonsils without producing a local lesion there, as is sometimes the case with the bacillus tuberculosis.

The condition presents certain analogies to the "non-venereal bubo," which has recently attracted a good deal of attention in the Far East, and has been the source of not a little perplexity to the medical officers of the army and navy. In connection with the theory that the glandular fever of childhood is due to intestinal infection and toxæmia, it is interesting to note that Surgeon-Major Skinner has suggested that as the "non-venereal buboes" in the cases he observed invariably occurred in the inguinal glands, and as the patients always had irregular action of the bowels, and sometimes dysentery, and in others apparently constipation, the enlarge-

ment of the inguinal glands may be due to secondary infection from the mesenteric lymph glands.

Though the pathology of glandular fever is unknown, it is of practical consequence to recognize that children are liable to an affection such as is described; that it is communicable, and that, though acute and accompanied often, if not usually, by high temperature, it is almost invariably benign, and does not lead to suppuration of the affected glands; but that it leaves behind a marked anæmia and general deterioration of health from which the child does not completely recover for a month or two.

There is one other point in which the affection resembles a specific fever. Treatment does not apparently exercise any influence over the course or duration of the malady. A cold compress to the neck, or, in the more severe cases, belladonna fomentations, relieve the local symptoms, but do not prevent the onset of adenitis on the opposite side. The bowels respond readily to laxatives, but the constipation soon returns. Purgatives, such as calomel, do not produce any more permanent effect, and Dr. Park West states that in some of the cases in which resort was had to this practice it seemed to be responsible for greater depression and a more prolonged convalescence.—*The Lancet*, 1897. Vol. L., No. 3.

We beg to draw the attention of physicians generally throughout Canada to the fact that the great English firm of Bovril (Limited) have opened a Canadian branch at 27 St. Peter street, Montreal, under the management of Mr. F. C. Silcock. Bovril has long been well known in England as standing at the head of all preparations of fluid extract of beef. It entirely supersedes the old-fashioned method of making beef tea, eliminating all trouble and annoyance; being made by simply adding a portion of the extract to a cup of boiling water, and a delicious cup of beef tea is the result; but with all the nutritive and strength-giving qualities of the beef retained. Owing to this extreme simplicity it is simply invaluable in hospitals and sick rooms. In addition to this feature, Bovril greatly improves and adds piquancy to hashed beef or mutton, ragout of game, etc., and in the preparation of strengthening soups for invalids it is unsurpassed. Where a preparation is of such sterling merit, and coupled with the fact that the business is being looked after by Mr. Silcock, a gentleman of recognized thorough executive ability, and who is exceptionally popular among the medical profession and business men throughout Canada, it can only be a question of time until Bovril will have proportionately as large a sale in this country as it enjoys in England and throughout the world.

We would request all who visit the British Medical Association 67th Annual Meeting, to be held in Montreal August 31st to Sept. 4th, 1897, to make a thorough inspection of the BOVRIL Exhibit, Sections F. and G., in the Museum of the Association, to be held in the Victoria Rink.

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Editorial.

BRITISH MEDICAL ASSOCIATION.

MONTREAL MEETING.

The time of the great medical event of the year at Montreal is not very far distant, and it behooves all who may not have decided to be present at the meeting to speedily make up their minds, and if the visit is contemplated, to at once inform the committee at Montreal of the fact. We learn that they are very anxious to know approximately how many they will have to entertain, and urgently request all who intend going to at once inform the local secretary, Dr. J. A. Springle, 2204 St. Catherine St., of the fact. The probable attendance of medical men is estimated at the present time to be about 1,000, two hundred and fifty from England, fifty from other colonies, three hundred from the United States, and four hundred Canadians. Three or four lady members have signified their intention of coming across the Atlantic, among them Mrs. Garrett Anderson. Dr. Saundby, Dr. Barnes and Mr. Fowke will arrive in Montreal on the 14th of August, by the *Parisian.*

Dr. Adami writes that the names of members who intend coming across are coming in daily, but when he wrote he was not certain that a special steamer would be required; but he is prepared at any moment to charter a vessel in the event of a sufficient number of late applicants appearing.

Seven eminent men who cannot be present at the meeting have promised to send demonstration specimens. The English secretaries are generally working in that direction.

Among the interesting discussions which are likely to be arranged for, is one on syphilis, between the dermatological and pharmacological sections, introduced by Dr. Whitla, of Belfast, Ireland, members of other sections, of course, being invited to attend.

Full arrangements will be made in advance whereby members intend-

ing to land at Quebec may obtain cards of membership entitling them to half fare and the privileges granted by the Customs Department. Vessels conveying members will be met at Rimouski, probably by Canadian representatives.

One of the most interesting and pleasant excursions will be the one arranged for to Ottawa, probably on Saturday. Dr. Roddick met the profession in Ottawa some days ago, and consequently the Finance Committee of the City Council promised to undertake all the expenses connected with the giving of a luncheon to the visiting members of the Association.

During Dr. Roddick's recent visit to Toronto, he spent some time with Professor Macallum, secretary of the B.A.A.S., from whom much information was obtained regarding the arrangements for that meeting. He found that a great many purposed attending both meetings, more especially those belonging to the physiological section. Dr. Roddick arranged with the President of the Branch, Dr. I. H. Cameron, to have any members of the B.M.A. entertained during their stay in Toronto. He found the profession as a whole very enthusiastic regarding the meeting, and very anxious to assist their Montreal brethren in every way.

It was Dr. Roddick's intention to have formed other branches in Western Ontario, in such places as London and Hamilton; but there was a feeling on the part of these places that there was not room for branches which might interfere with the existing local medical societies.

The Rev. Dr. Norton has kindly offered the Association the English Cathedral for a special service, and Dr. Adami will arrange with either Bishop Courtney, Bishop DuMoulin or Bishop Sutherland, who are now attending the Lambeth Conference, to officiate.

Some six hundred invitations have already been sent out, and replies have been received from 221. Among those who have intimated their intention of attending the meeting are: A. C. Abbott, Dept. of Hygiene, Univ. of Pennsylvania; John Ashurst, jr., L. D. Bulkley, W. T. Bull, H. T. Byford, H. P. Bowditch, J. Solis-Cohen, T. M. Cheeseman, D. W. Cheever, W. B. Coley, J. McKeen Cattell, Fred S. Dennis. D. B. Delavan, Reginald Fitz, Geo. H. Fox, Frank P. Foster, Christian Fenger, Virgil Gibney, H. G. Gerrigues, E. H. Grandin, Langdon Carter Gray, Geo. M. Gould, Hobart A. Hare, C. A. Herter, James Nevin Hyde, E. Hodenpyl, B. C. Hurst, A. Jacobi, Chas. Jewett, M. McKeen, Howard A. Kelly, C. A. Lindsley, John H. Musser, W. F. Mittendorf, Hunter McGuire, Thos. G. Morton, H. H. Mudd, J. B. Murphy, Paul F. Munde, W. P. Northrup, Wm. Pepper, Roswell Park, Fred. C. Shattuck, Louis Starr, W. Allan Starr, J. V. Shoemaker, E. C. Spitzka, Geo. F. Shrady, E. L. Trudeau, James Tyson, Hiram N. Vineberg, Wm. H. Welch and Casey A. Wood.

The English list of members coming has already appeared in the *British Medical Journal* and in the daily papers, but it will be of interest to be reminded that those coming will have the privileges of listening to such men as Professor Chas. B. Ball, William Mitchell Banks, Henry Barnes, Prof. R. Boyce, Watson Cheyne, Sidney Coupland, I. Ward Cousin, J. H. Crocker, Prof. E. M. Crookshank, C. Heath, Arthur Kelsey, D. J. Leech, Right Hon. Lord Lister, Harvey Littlejohn, Donald Mac-

Alister, Stephen Mackenzie, Thos. M. Madden, Malcolm Morris, E. Nettleship, Robt. Saundby, W. J. Sinclair, Prof. W. Whitla, Dawson Williams, and Professor Richet, of Paris. Replies have been received from 12 of the branches of the Association accepting the invitations tendered requesting them to send delegates.

The Museum Committee report that all their space has been taken up, and they probably will have to secure another building besides the large Victoria Skating Rink. This department will prove one of the most interesting features of the meeting. A rare opportunity will be forwarded to see pharmaceutical preparations, surgical and medical appliances, and everything that interests the physician, from the leading firms of the United States and Canada, as well as from across the Atlantic. Among the leading surgical instrument manufacturers will be Collin, of Paris, and Down Bros., of London, the latter making a special exhibition of antiseptic furniture which will be worthy of inspection. Among the leading pharmaceutical houses who are making elaborate displays will be R. K. Mulford & Co., of St. Louis; Parke Davis & Co., Detroit; Wyeth, of Philadelphia; Sharpe and Dohme, of Baltimore, and others. Zeiss is making a special display of microscopical apparatus. There will also be a great variety of exhibits from leading firms in Vienna, Berlin, Edinburgh, London, Paris and New York.

The local Entertainment Committee are being assisted by a committee of ladies consisting of the wives of the profession in Montreal and others. Among the entertainments provided for, in addition to those mentioned before, are a number of afternoon tea and garden parties. The ladies' committee will specially interest themselves in looking after lady visitors, and will make ample provision for continuously entertaining them during the progress of the meeting, so that members may without hesitation bring their ladies with them and be assured while they themselves are fully occupied with the essential features of the meeting, the former will be so well looked after that the time will not hang heavily. The annual dinner will be held at the Windsor Hotel. The large dining-room will accommodate six hundred. The dinner will cost five dollars, including wines.

The Excursions Committee have arranged an attractive and varied programme which cannot fail to meet the desires of all. We append the printed outline of some of the excursions which was issued recently.

Among other excursions not noted on the printed list, is the one on Lake Memphremagog to Newport and Magog. This is one of the most picturesque spots in the Province of Quebec, and the trip will carry the tourist through one of the most fertile portions of Canada, with scenery of mountain, lake and river, fairly typical of what is characteristic of the Province, and to be seen more especially in almost endless variety in the Laurentian district, which, for want of time, cannot be visited. A special train will be provided which will enable the party to return in the evening. The steamer will accommodate about 800. Lunch will be taken at Newport, or probably at the foot of Owl's Head, if it is found that the hotel there can supply refreshments for the number expected to go. The excursion will be arranged for Saturday, and it is thought probable that for those desiring it, the privilege of remaining over Sunday and return-

ing on Monday will be obtained. A trip is proposed to Shawenagan Falls, on the St. Maurice River, which are said to almost rival Niagara.

Among other local trips on different afternoons are a ride round the mountain on the electric cars and through some of the more interesting parts of the city; a trip to the top of Mount Royal, where a luncheon will be served by the Mayor and Corporation of Montreal. The incline railway, carriages or bicycles may be the means of arriving there; a steamboat trip down the St. Lawrence; another to Ste. Anne and down the Lachine Rapids. It can be gained from what we have indicated that those going to the Montreal meeting will not only be benefited from a medical point of view by coming in contact with the leading members of the profession from Britain, the United States and Canada, and taking in the various discussions and papers which may be expected to represent the most recent advances, but that they will also be fully regaled by a varied and full round of social entertainments and pleasure trips such as has not been privileged to the members of any previous meeting.

SOME MEDICAL ASPECTS OF THE DIAMOND JUBILEE.

The Diamond Jubilee of Her Majesty, which has been celebrated with so much enthusiasm and success all over the Empire, has its medical side, a fact which seems to have been overlooked. We do not refer to the history of medicine during the Victorian era, but to the personal relation of the sovereign to our various medical attendants during the reign. These relations, there is reason to believe, have been always of the most friendly and appreciative character. On the Queen's accession she appointed Sir James Clark physician-in-ordinary (he was not related to Sir Andrew Clark). He continued in close attendance on Her Majesty until his resignation in 1861, when he was succeeded by Sir William Jenner, who continued to hold his office until the 23rd of June last, when he retired into private life. Sir William Jenner began life in the humblest way as a licentiate of the Society of Apothecaries, residing in an obscure street in London. He retires a baronet, a Knight Grand Cross of the Bath and a rich man. Who will say that a poor man has no chance in England? Jenner's professional work has been important; to him, among other things, we owe the diagnosis of typhoid fever. He has been succeeded by Sir James Reid, who has been since 1889 physician-in-ordinary and resident physician. He graduated at Aberdeen in 1875. He is responsible for the Queen's health in a more particular manner than his predecessors, as he is constantly with the Court. Sir Charles Locock was physician accoucheur to the Queen and attended her in all her confinements. Upon two occasions, the births of the Duke of Albany and Princess Beatrice, Dr. John Snow administered chloroform.

The following is the list of the Queen's physicians and surgeons: Physicians in ordinary, Sir James Reid and Sir Ed. Sieveking; physicians extraordinary, Sir Richard Douglas Powell, Sir Richard Quain, Sir Alfred Garrod and Dr. Samuel Wilks; physician to the household, Dr. Thomas Barlow; sergeant surgeon, Sir James Paget; surgeons extra-

ordinary, Lord Lister, Sir Thomas Bryant, Sir Thomas Smith; surgeon to the household, Rickman J. Godlee; surgeon oculist, George Lawson; apothecary, Sir Francis Laking; surgeon dentist, Sir Edwin Saunders; physicians in ordinary in Scotland, Dr. W. T. Gairdner and Grainger Stewart; surgeons, Patrick H. Watson and Alexander Ogston; surgeon oculist, D. Argyle Robertson; physician in ordinary in Ireland, Dr. Wm. Moore; surgeons in ordinary, Sir William Stokes and Sir Philip Smyly; surgeon oculist, G. E. FitzGerald.

Why should there not be a physician and a surgeon extraordinary appointed from Canada?

BRITISH MEDICAL ASSOCIATION.

MONTREAL MEETING, AUGSUT 31st.

How members may reach Montreal or take advantage of trips to any part of Canada before or after the meeting, rates, etc. The names of all members of Toronto branch have been forwarded to Dr. G. E. Armstrong, 320 Mountain St., Montreal, who will send certificate to any member writing for it, entitling him and any of his family to buy a ticket at any ticket office (railway or steamboat), in Canada, to any part of Canada, for half of one single fare, or return for one single fare. He can purchase them at any time, to any point, and as often as he likes. These rates are good from now until 30th Sept.

If anyone wishes to go to the Northwest before the meeting, he can purchase a ticket from point of departure, at same time asking the local ticket agent to give a certificate saying he had purchased a ticket; if this certificate and the number of the certificate given by Dr. Armstrong is sent to Mr. N. F. Egg, 129 St. James St., Montreal, he will quote a price and also send free passes over branch lines in Manitoba, Northwest Territories, and British Columbia, and over the C.P.R. steamboats. The price of such ticket to Vancouver is about $70.45, or on receipt of number of certificate given by Dr. Armstrong Mr. Egg will quote price, send tickets and free passes altogether, on receipt of money order for the amount. It would be well for any of the profession, throughout the western part of the province especially, who are not already members, but who wish to take advantage of all that the meeting affords, to make application for membership at their earliest convenience. It ought to be understood that only invited guests and members are admitted to the discussions and privileges.

Other information may be obtained by writing Dr. H. T. Mitchell, 95 Bellevue Ave., the Acting Secretary of the Toronto branch.

DOCTOR,—Your library is not complete without the HYPNOTIC MAGAZINE. Cost of this handsome monthly, including premium book on SUGGESTIVE THERAPEUTICS, is only One Dollar ($1.00) a year.

THE PSYCHIC PUBLISHING CO., 56 5th Avenue, CHICAGO.

THE MEDICAL COUNCIL.

The Medical Council has once more met and concluded its labors. We do not look for complete unanimity in legislative bodies. Were its existence possible, usefulness would be curtailed, for from manly controversy comes forth that which most nearly approaches perfection in enactment.

The diversity of thought which pre-eminently characterized the recent session was no innovation, inasmuch as debate has waxed fast and, once in a while, somewhat furious, ever since the last election, on which occasion the personnel of the Council was in a measure changed by the appearance in its midst of a small minority pledged on a radical platform to stand together against the existing order of medical polity.

Theirs has been a policy of vigorous attack; but while one cannot help admiring continuity of purpose in any attempted revolution, the degree of admiration must be determined by the nature of the *casus belli* and the motives that impel the insurgents.

Fair investigation of the historical facts will show that the beginning of strife originated in the refusal of a certain few to contribute the small sum of two dollars per annum toward the revenue of the College, which the records prove to have been a necessity; and although we have not been always in accord with the judgment of the Council, we think it self-evident that every member of the College has received full value for his annual fee. The original legislation for the incorporation of the profession had in view two main objects—the one a guarantee to the community of satisfactory attainments on the part of those who have the public health committed to their care, and the other a bond of professional union and brotherhood to secure ample protection against quackery from without and from degradation of a lofty calling by ignoble deeds within the ranks.

We fear that the profession of medicine in Ontario has not been exalted to any great extent in the estimation of the people by this interminable quarrel over so trifling a matter as the yearly assessment. The opinion has again and again been expressed by eminent men from abroad that nowhere else are the interests of the profession so sacredly guarded by law as we find in this Province. In any other corporation under the sun a *rara avis* would he be who, while sharing in the benefits of the body corporate, would obstinately persist in withholding his mite. It is a great pity that we have become a spectacle for the ridicule of others who can scarcely credit the reliability of their eyesight; and it does seem about time that this line of warfare should come to an end. We have closely watched the proceedings of the past few years and are firmly persuaded that the policy of the few who always oppose, if stripped of its enwrapping husks and well-nigh empty shell, would turn out to be a shrivelled little kernel—a willingness to accept what others pay for, coupled with the self-satisfying opportunity for carping at the legislative measures which had to be invoked in order to compel them to accept the option of doing their part like men or getting out.

The recent session was pregnant with discussion full and free; we fancy it was a trifle less acrimonious in character than its predecessors, but still there is room for improvement. Factious opposition should have been eliminated, and attention given exclusively to straight business. We heartily commend the holding of night meetings which prevailed; for a short session with its lessened expense is a desideratum.

The President, Dr. Thorburn, discharged the duties pertaining to his office in such a manner as to richly earn the hearty vote of thanks accorded.

Certain changes in the curriculum of an important character were advised by the Education Committee, and adopted; the most pressing being the compulsory lengthening of the school session from six to eight months, not a whit too long for such scientific training as the people of Ontario have a right to expect. In order to give opportunity for certain schools to make the preparations necessary for so important a departure, this is not to come into effect until October, 1899—the resolution having been adopted by a very large majority.

The highest standard compatible with the resources of the country is to be desired, but when it resolves itself into a financial barrier in the way of ambitious, brainy young men, it then becomes an evil; for this reason we deprecate the continuation of the fifth year.

Lack of space precludes further reference to the alterations in the professional course, but we purpose resuming the matter in our next issue.

THE BALL NOZZLE SYRINGE.

That this is *the* age of inventions is once more emphasized by the appearance of the Ball Nozzle Syringe, which has just been placed upon the Canadian market by the Ball Nozzle Company of Toronto, Limited, Confederation Life Building, Toronto. It is different in construction from all ordinary syringes: instead of being pierced by small holes, as in these, the outlet is controlled by a ball, which causes the water to issue in a hollow stream and thoroughly cleanses the *cul de sac*. This will be an inestimable boon to women, as any woman may now use a syringe without the slightest fear of injuring the delicate sensitive organs, and we confidently recommend this syringe to the medical profession as being an exceptionally meritorious article.

PERSONAL.—We are glad to see our collaborateurs, Drs. G. Sterling Ryerson and G. A. Bingham, have returned from England, where, we understand, they made a considerable impression upon Her Majesty and the nobility in general.

ACNE.—Spray with a one-half to one-fifth per cent. solution of resorcin, and follow by the application of an ichtyol plaster; after the disappearance of the acne an ointment of chrysarobin, at first 20 per cent., then 10 per cent., should be applied.—*Brocq.* (*Pediatrics.*)

BRITISH MEDICAL ASSOCIATION.

MONTREAL MEETING.

July 16th, 1897.

To the Editor CANADA LANCET.

DEAR SIR,—May I ask you through the columns of your journal to draw the attention of the profession in Canada to the fact, that all those who intend attending the meeting of the British Medical Association here on the 31st of August next must be members of the Association. And, moreover, it is compulsory in all meetings, excursions, or entertainments of any kind, that members must show their ticket of membership to entitle them to any of the foregoing privileges.

The half year of subscription to membership began on July 1st, from which date also the second volume of the Journal for the current year is issued.

It is particularly advisable that all those who intend to join should do so now, and not wait until the time of the meeting, when in all probability their election to membership would be delayed, and place an extra amount of work upon the officials, who at that time will probably have more than they can comfortably accomplish.

Yours faithfully,

J. ANDERSON SPRINGLE,

Hon. Secretary Montreal Branch.

SANMETTO IN GONORRHŒA.

A bottle of Sanmetto enabled me to discharge the patient I was treating entirely cured. Since then I have had a crop of cases of gonorrhœa, such as often explodes in our midst in the form of an epidemic. In the chronic form of gonorrhœa, ending in chronic cystitis and urethritis, involving the prostrate gland and lymphatics, with backache, malaise and painful micturition, I think I can say with impartiality that I know of no medicine conserving the purpose of bridging over these troubles like Sanmetto; and I know of no class of troubles which annoy physicians more. In all such cases I would say, put the patients on Sanmetto, and if they do not improve, I will give it up. Sanmetto is invaluable in such cases.

PULASKI, TENN. J. C. ROBERTS, M.D.

Prof. E. H. Pratt will hold his eleventh annual class for didactic and clinical instruction in orificial surgery during the week beginning September 6th, 1897. The class will assemble in the amphitheatre of the Chicago Homœopathic Medical College, at the corner of Wood and York Streets, at 9 a.m.

The course of instruction will last during the week, occupying a four hours' daily session.

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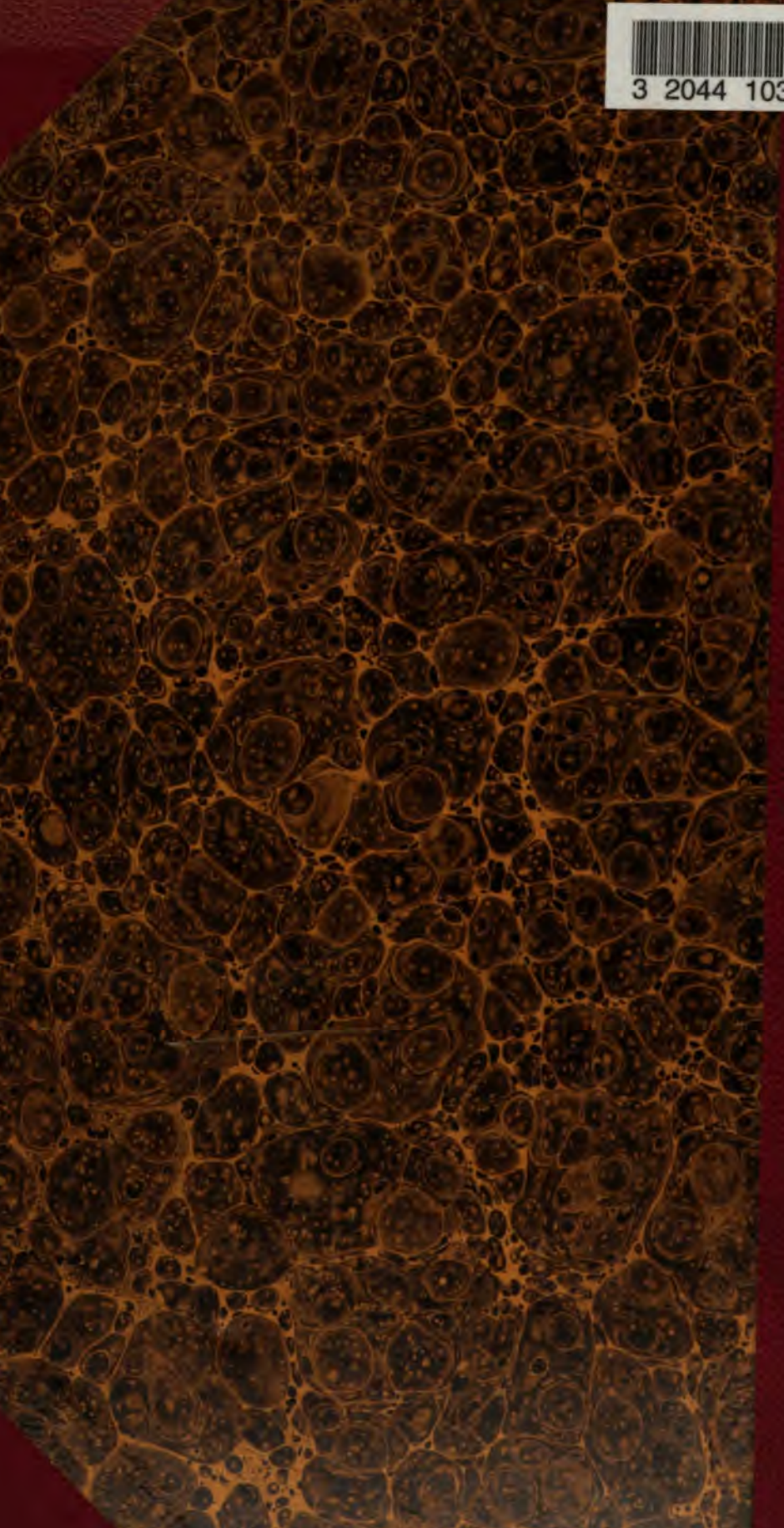

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